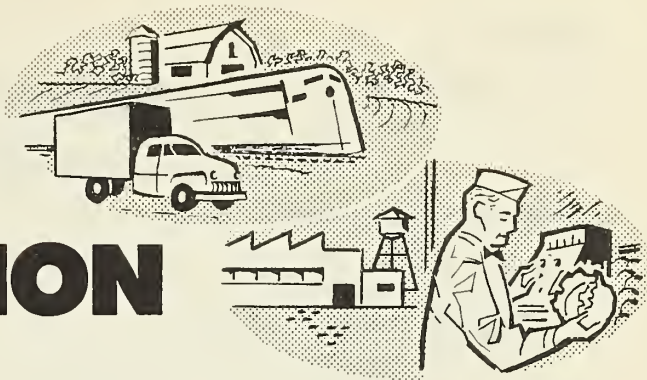


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# MARKETING and TRANSPORTATION SITUATION

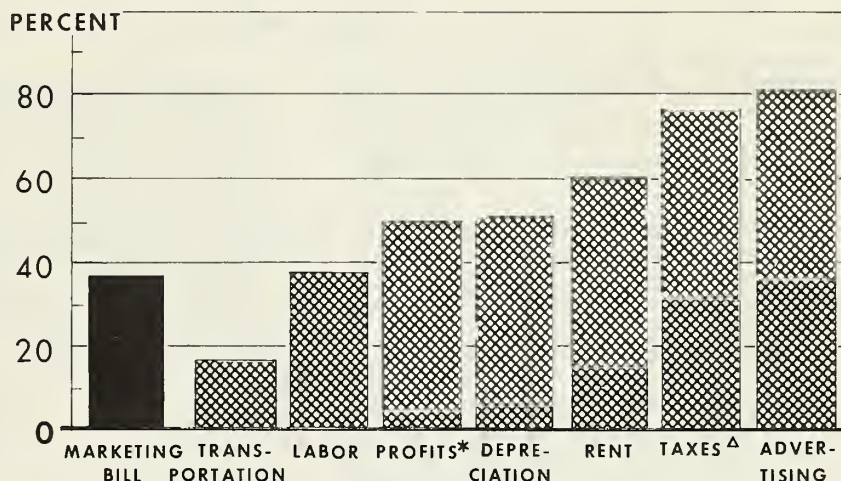


MTS-170

AUGUST 1968

The bill for marketing farm foods to civilian consumers increased 37 percent from 1957-59 to 1966. Increases in individual marketing costs were not uniform. The fastest growing marketing costs were profits, depreciation, rent, business taxes and advertising. Increases ranged from 50 percent for profits to 81 percent for advertising. These 5 costs accounted for about 28 percent of the increase in the marketing bill from 1957-59 to 1966. In contrast, labor costs--the largest item in the marketing bill--increased about the same percentage as the total bill. However, because of its importance, labor accounted for 44 percent of the increase in the marketing bill. Transportation was the only item that did not increase by as large a percentage as the total marketing bill.

## CHANGES IN THE FOOD MARKETING BILL AND MAJOR COMPONENTS, 1957-59 TO 1966



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5688-68 (7) ECONOMIC RESEARCH SERVICE

### IN THIS ISSUE

- The Bill for Marketing Farm-Food Products
- Comparison of Prices Paid for Selected Foods in Chainstores in High and Low Income Areas
- Marketing Spreads for White Bread
- Food Uses of Soy Protein

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## STATISTICAL SUMMARY OF MARKET INFORMATION

Item	Unit or :base period	1967			1968	
		Year	:Apr.-June	:Oct.-Dec.	:Jan.-Mar.	:Apr.-June
Farm-to-retail price spreads						
Farm-food market basket: 1/						
Retail cost .....	Dol.	:1,081	1,069	1,083	1,101	1,114
Farm value .....	Dol.	: 413	408	407	424	436
Farm-retail spread .....	Dol.	: 668	661	676	677	678
Farmer's share of retail cost .....	Pct.	: 38	38	38	39	39
General economic indicators						
Consumers' per capita income and expenditures: 2/						
Disposable personal income .....	Dol.	:2,744	2,723	2,798	2,866	2,619
Expenditures for goods and services ..	Dol.	:2,472	2,466	2,511	2,591	2,624
Expenditures for food .....	Dol.	: 477	475	481	492	503
Expenditures for food as percentage of disposable income .....	Pct.	: 17.4	17.4	17.2	17.2	17.2
		1967		1968		
		Year	: June	: April	: May	: June
Hourly earnings of employees, private sector 3/ .....	Dol.	: 2.67	2.67	2.80	2.83	2.84
Hourly earnings of food marketing employees 4/ .....	Dol.	: 2.51	2.51	2.66	2.68	---
Retail sales: 5/						
Food stores .....	Mil. dol.	:6,011	6,050	6,342	6,381	6,411
Apparel stores .....	Mil. dol.	:1,509	1,524	1,533	1,535	1,575
Manufacturers' inventories: 5/						
Food and kindred products .....	Mil. dol.	:6,561	6,634	6,839	6,903	6,795
Textile mill products .....	Mil. dol.	:3,169	3,108	3,330	3,348	3,398
Tobacco products .....	Mil. dol.	:2,392	2,380	2,397	2,406	2,414
Indexes of industrial production: 6/						
Food manufactures .....	:1957-59=100	:130.1	129.9	131.8	132.7	---
Textile mill products .....	:1957-59=100	:142.2	136.6	146.6	147.6	---
Apparel products .....	:1957-59=100	:147.7	142.4	148.6	---	---
Tobacco products .....	:1957-59=100	:120.0	123.9	112.1	---	---
Index of physical volume of farm marketings .....	:1957-59=100	:124	112	---	---	---
Price indexes						
Consumer price index 7/ .....	:1957-59=100	:116.3	116.0	119.9	120.3	120.9
Wholesale prices of food 8/ .....	:1957-59=100	:108.6	110.3	110.8	112.2	---
Wholesale prices of cotton products 7/ ..	:1957-59=100	:100.7	99.7	105.2	104.9	104.7
Wholesale prices of woolen products 7/ ..	:1957-59=100	:103.2	103.2	103.0	103.5	103.8
Prices received by farmers .....	:1957-59=100	:104	105	107	108	107
Prices paid by farmers, interest, taxes, and wage rates .....	:1957-59=100	:117	117	121	121	121

1/ Contains average quantities of farm-originated foods purchased annually per household in 1960-61 by wage-earner and clerical-worker families and single workers living alone. Estimates of the farmer's share do not allow for direct Federal payments to producers, except for the value of wheat marketing certificates. 2/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data. Percentages have been calculated from total income and expenditure data. 3/ Average hourly earnings of production workers in mining and manufacturing; construction workers in contract construction; nonsupervisory workers in wholesale and retail trade, finance, insurance, real estate, transportation, public utilities and services, Dept. of Labor. 4/ Weighted composite earnings in food processing, wholesale trade, retail food stores, calculated from data of Dept. of Labor. 5/ Seasonally adjusted, Dept. of Commerce. Sales data for 1967 are averages of monthly totals (unadjusted). Inventory data for 1967 are book values at end of year (adjusted). 6/ Seasonally adjusted, Board of Governors of Federal Reserve System. 7/ Dept. of Labor. 8/ Fresh and dried fruits and vegetables, eggs, and processed foods; Dept. of Labor.

# MARKETING AND TRANSPORTATION SITUATION

Approved by the Outlook and Situation Board, August 8, 1968

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## SUMMARY\*

### Price relationships for farm foods.

The retail cost of the market basket of farm foods in the second quarter this year slightly exceeded the record established in 1966. The retail cost of these foods rose every month in the first half of 1968, continuing the upward movement that began last December. The retail cost of the market basket in the second quarter averaged slightly higher than in the previous quarter and 4 percent above the second quarter last year.

Returns to farmers (the farm value) for products in the market basket increased almost 3 percent from the first to the second quarter, though they declined slightly in May. Higher prices for meat animals reflected the very strong advance in demand this year. Shorter supplies of fruits and vegetables contributed to sharp price increases. The farm value of the market basket in the second quarter averaged 7 percent above a year earlier. Farm-level prices were higher than a year earlier for several major food products, but lower for grains and soybeans.

The spread between the retail cost and farm value of the market basket averaged about the same in the second quarter

as in the first quarter. Compared to a year earlier, spreads in the second quarter averaged over 2 percent wider, as spreads for most items increased.

Farmers received an average of 39 cents of the dollar consumers spent for farm food products in the second quarter--the same as in the preceding quarter but 1 cent more than a year earlier.

The retail cost of the market basket of farm foods is expected to rise further but more slowly in the second half of this year. The farm value of these foods is expected to continue above a year earlier, and further increases in spreads are anticipated.

Marketing bill and consumer expenditures for food. The bill for marketing domestic farm-originated food products to civilian consumers in this country rose to \$57.6 billion in 1967. Increases in volume of products marketed and in marketing costs per unit contributed almost equally to the rise. The increase of 5 percent from 1966 to 1967 compared with an average annual increase of 4.2 percent during 1958-67.

\*The summary of this report and a summary table were released to the press on August 8, 1968.

Consumers paid \$85.0 billion for these foods--2.7 percent more than in 1966. This increase was smaller than the average annual increase during 1958-67. A decrease in prices of food in retail food stores in 1967 was largely offset by price increases in away-from-home eating places. Returns to farmers from these products amounted to \$27.4 billion--down 2.5 percent from 1966. Increases in volume did not make up for decreases in prices.

Mainly as a result of rising prices, consumer expenditures for all food rose

to \$503 per person (seasonally adjusted annual rate) in the second quarter this year--up 2 percent from the first quarter and 6 percent from the second quarter of 1967.

The proportion of income spent for food continued to trend downward in 1968. In the second quarter, expenditures for food averaged 17.2 percent of disposable income compared with 17.4 percent a year earlier.

## FARM-FOOD MARKET BASKET STATISTICS

### Retail Cost Continued to Rise in Second Quarter

Retail prices of farm foods rose every month in the first half of 1968, continuing an upward movement that began last December (table 1). Shorter supplies and higher prices for fruits and vegetables caused much of the increase.

The retail cost of the market basket of farm-originated foods <sup>1/</sup> averaged \$1,114 (annual rate) in the second quarter of 1968--up slightly more than 1 percent from the previous quarter (table 2). This increase raised the retail cost of the market basket to slightly above the previous record reached in the third quarter of 1966. Retail prices of all product groups, except eggs and fats and oils, which were in large supply, increased from the first to second quarter due primarily to a sharp advance in

demand so far this year. Prices of bakery and cereal products were relatively stable.

Compared with the second quarter last year, the retail cost of the market basket averaged 4 percent higher in the second quarter this year. Retail prices increased for all product groups except bakery and cereal products and fats and oils. Fresh and processed fruits and vegetables caused more than half of the total rise.

### Farm Value Increased in Second Quarter

Despite slightly lower prices received by farmers during May, the farm value of the market basket of farm foods averaged almost 3 percent higher in the second quarter of 1968 than in the first quarter (tables 1 and 2). Higher prices for meat animals and some fruits and vegetables caused most of the increase in the total farm value of the market basket.

<sup>1/</sup> The market basket contains the average quantities of domestic farm-originated food products purchased annually per household in 1960 and 1961 by wage-earner and clerical-worker families and single workers living alone. Its retail cost is calculated from retail prices published by the Bureau of Labor Statistics. The retail cost of the market basket foods is less than the cost of all foods bought per household, since it does not include costs of meals in eating places, imported foods, seafoods, or other foods not of farm origin. The farm value is the return to farmers for the farm products equivalent to foods in the market basket. The farm-retail spread is the difference between the retail cost and farm value. It is an estimate of total gross margin received by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The market basket of farm foods: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, averages 1947-49 and 1957-59 annual 1957-67, monthly 1967-68 1/

Year and month	Retail cost	Farm value	Farm-retail spread	Farmer's share
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>
Average:				
1947-49 .....	890	441	449	50
1957-59 .....	983	388	595	39
1957 .....	953	380	573	40
1958 .....	1,009	407	602	40
1959 .....	985	377	608	38
1960 .....	991	383	608	39
1961 .....	997	380	617	38
1962 .....	1,006	384	622	38
1963 .....	1,013	374	639	37
1964 .....	1,013	374	639	37
1965 .....	1,038	408	630	39
1966 .....	1,095	443	652	40
1967 <u>2/</u> .....	1,081	413	668	38
<u>1967 2/ 3/</u>				
January .....	1,083	418	665	39
February .....	1,074	413	661	38
March .....	1,069	411	658	38
April .....	1,063	399	664	38
May .....	1,064	399	665	38
June .....	1,080	425	655	39
July .....	1,091	433	658	40
August .....	1,098	428	670	39
September .....	1,088	417	671	38
October .....	1,083	409	674	38
November .....	1,080	400	680	37
December .....	1,086	408	678	38
<u>1968 2/ 3/</u>				
January .....	1,098	417	681	38
February .....	1,100	424	676	39
March .....	1,105	431	674	39
April .....	1,110	439	671	40
May .....	1,114	434	680	39
June .....	1,117	435	682	39

1/ Data for earlier years are published in Farm-Retail Spreads for Food Products 1947-64, ERS-226, April 1965.

2/ Preliminary.

3/ Annual rates.

Table 2.--The market basket of farm foods: Retail cost, farm value, and farm-retail spread, April-June 1968, January-March 1968, and April-June 1967

Item	Apr.-June	Jan.-Mar.	Apr.-June	Change: Apr.-June 1968 from			
	1968	1968	1967	Jan.-Mar. 1968		Apr.-June 1967	
	Dol.	Dol.	Dol.	Dol.	Pct.	Dol.	Pct.
Retail cost <u>1/</u>							
Market basket .....	1,113.59	1,100.93	1,068.92	12.66	1	44.67	4
Meat products .....	321.99	320.36	311.11	1.63	1	10.88	3
Dairy products .....	200.96	198.72	194.77	2.24	1	6.19	3
Poultry .....	48.01	47.05	46.11	.96	2	1.90	4
Eggs .....	34.06	34.75	33.07	-.69	-2	.99	3
Bakery and cereal products .....	169.13	169.00	169.23	.13	2/	-.10	2/
Fresh fruits .....	53.53	49.20	43.34	4.33	9	10.19	24
Fresh vegetables .....	75.73	73.43	69.93	2.30	3	5.80	8
Processed fruits and vegetables .....	123.03	121.39	114.42	1.64	1	8.61	8
Fats and oils .....	38.09	38.23	38.82	-.14	2/	-.73	-2
Miscellaneous products .....	49.06	48.79	48.11	.27	1	.95	2
Farm value <u>3/</u>							
Market basket .....	436.00	424.06	407.76	11.94	3	28.24	7
Meat products .....	171.50	165.85	162.16	5.65	3	9.34	6
Dairy products .....	96.20	94.59	92.44	1.61	2	3.76	4
Poultry .....	24.10	23.38	22.54	.72	3	1.56	7
Eggs .....	20.07	19.85	18.48	.22	1	1.59	9
Bakery and cereal products .....	33.47	34.02	36.03	-.55	-2	-2.56	-7
Fresh fruits .....	19.74	17.45	12.96	2.29	13	6.78	52
Fresh vegetables .....	25.42	25.23	22.59	.19	8	2.83	13
Processed fruits and vegetables .....	25.89	23.81	19.84	2.08	9	6.05	30
Fats and oils .....	10.32	10.57	11.70	-.25	-2	-1.38	-12
Miscellaneous products .....	9.28	9.33	9.02	-.05	-1	.26	3
Farm-retail spread							
Market basket .....	677.59	676.87	661.16	.72	2/	16.43	2
Meat products .....	150.49	154.51	148.95	-4.02	-3	1.54	1
Dairy products .....	104.76	104.13	102.33	.63	1	2.43	2
Poultry .....	23.91	23.67	23.57	.24	1	.34	1
Eggs .....	13.99	14.90	14.59	-.91	-6	-.60	-4
Bakery and cereal products .....	135.66	134.98	133.20	.68	1	2.46	2
Fresh fruits .....	33.79	31.75	30.38	2.04	6	3.41	11
Fresh vegetables .....	50.31	48.20	47.34	2.11	4	2.97	6
Processed fruits and vegetables .....	97.14	97.58	94.58	-.44	2/	2.56	3
Fats and oils .....	27.77	27.66	27.12	.11	2/	.65	2
Miscellaneous products .....	39.78	39.46	39.09	.32	1	.69	2

1/ Retail cost of average quantities purchased annually per household in 1960-61 by urban wage-earner and clerical-worker families and single workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics.

2/ Less than 0.5 percent..

3/ Payment to farmer for equivalent quantities of farm products minus imputed value of byproducts obtained in processing.

Declining prices received by farmers for wheat and soybeans reduced the farm value of bakery and cereal products and fats and oils.

The farm value of food in the market basket in the second quarter of this year averaged about 7 percent above a year earlier. Fruits and vegetables, meats, and dairy products accounted for most of the increase. Increases for these products were partially offset by lower prices received by farmers for a few products--mainly wheat and soybeans.

#### Marketing Spreads Unchanged in Second Quarter

The spread between the retail cost and the farm values of market basket foods averaged about the same as in the first quarter. Most of the first- to second quarter advance in the retail cost of food resulted from rising prices at the farm level. The total farm-retail spread decreased slowly from January through April, then increased in May and June (table 1).

Sharp increases in spreads for fresh fruits and vegetables in the second quarter were partially offset by decreases for meat products and eggs. Marketing spreads for both Choice beef and pork decreased (table 3). Changes in spreads for other product groups were relatively minor.

The total spread for the market basket in the second quarter averaged over 2 percent wider than in the same quarter last year. Spreads for most items in the market basket increased (table 16, p. 33). Over the past decade, spreads have increased at an average rate of 1.5 percent a year.

#### Farmer's Share Averages 39 Cents

In the second quarter this year, farmers received an average of 39 cents of the dollar consumers spent for domestic farm foods in retail food stores. This was the same share as in the previous quarter, but 1 cent more than a year earlier. The farmer's share has averaged 38 or 39 cents for more than half of the quarters during the last 10 years.

#### How Some Commodities Fared

Prices and Marketing Spreads for Apples Rose Sharply in the Second Quarter. Reduced supplies of apples in storage increased prices sharply in the second quarter. As a result, consumers paid 25.1 cents a pound for apples--4.3 cents more than a year earlier. Returns for an equivalent quantity at the farm level averaged 10.8 cents--up 3.2 cents from the second quarter of 1967. Because retail prices rose more than prices at the farm level, farm-retail spreads widened to 14.3 cents--1.1 cents more than last year.

Prices and Marketing Spreads for Potatoes Up Sharply. Supplies of potatoes from the late-spring crop were 16 percent smaller than last year. This decrease boosted prices in the latter part of the second quarter. As a result, consumers paid 79.5 cents per 10 pounds of potatoes in the second quarter--6.7 cents more than a year earlier. Returns for an equivalent quantity at the farm level increased 4.7 cents from the second quarter of last year. As a result of the smaller increase at the farm level, the farm-retail spread widened 2.0 cents from a year ago (table 15, p. 32).

Prices Up and Marketing Spreads Down for Frozen Orange Juice Concentrate. In the second quarter this year, prices received by growers for oranges for concentrating were more than twice those of a year earlier. The farm value for oranges equivalent to a 6-ounce can of frozen orange juice concentrate averaged 9.9 cents in the second quarter this year--up 5.6 cents from last year. Not all of this increase, however, was passed on to consumers because the marketing spread decreased. Of the increase, consumers paid 3.4 cents more in the form of higher retail prices and the marketing system absorbed the remaining 2.2 cents.

#### Outlook for Remainder of 1968

The recent advance in the retail cost of the market basket foods is expected to slow materially in the second half of 1968. Prospects for larger supplies of fruits and vegetables, continued large supplies of meat, and a slower rise in income will reduce upward pressures in food prices.

Table 3.--Beef, pork, and lamb: Retail price, wholesale value, farm value, farm-retail spread, and farmer's share of retail price, annual 1965-67, quarterly 1967-68

Date	Retail price	Wholesale	Gross	Byproduct	Net	Farm-retail spread			Farmer's share
	per pound 1/	value 2/	farm value 3/	allowance 4/	farm value 5/	Total	Wholesale- retail	Farm- wholesale	
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Percent
Beef, Choice grade									
1965 .....	81.4	57.6	51.6	4.8	46.8	34.6	23.8	10.8	57
1966 .....	84.3	58.9	55.5	5.9	49.6	34.7	25.4	9.3	59
1967 .....	84.1	59.7	54.3	5.0	49.3	34.8	24.4	10.4	59
1967									
Jan.-Mar. ....	82.9	57.2	53.3	5.3	48.0	34.9	25.7	9.2	58
Apr.-June ....	82.5	58.2	53.1	5.1	48.0	34.5	24.3	10.2	58
July-Sept. ....	84.9	62.4	56.5	5.1	51.4	33.5	22.5	11.0	61
Oct.-Dec. ....	86.0	61.1	54.5	4.8	49.7	36.3	24.9	11.4	58
1968									
Jan.-Mar. ....	86.4	62.0	56.1	4.7	51.4	35.0	24.4	10.6	59
Apr.-June ....	86.6	62.9	57.8	5.3	52.5	34.1	23.7	10.4	61
July-Sept. ....	---	---	---	---	---	---	---	---	---
Oct.-Dec. ....	---	---	---	---	---	---	---	---	---
Pork									
1965 .....	64.1	49.5	42.1	5.5	36.6	27.5	14.6	12.9	57
1966 .....	73.4	54.8	47.6	6.4	41.2	32.2	18.6	13.6	56
1967 .....	67.0	48.1	39.0	4.8	34.2	32.8	18.9	13.9	51
1967									
Jan.-Mar. ....	66.7	47.5	38.3	5.0	33.3	33.4	19.2	14.2	50
Apr.-June ....	65.5	47.1	38.4	4.9	33.5	32.0	18.4	13.6	51
July-Sept. ....	69.4	51.4	43.0	4.9	38.1	31.3	18.0	13.3	55
Oct.-Dec. ....	66.5	46.5	36.1	4.2	31.9	34.6	20.0	14.6	48
1968									
Jan.-Mar. ....	66.1	47.0	36.7	4.3	32.4	33.7	19.1	14.6	49
Apr.-June ....	66.4	48.3	38.0	4.4	33.6	32.8	18.1	14.7	51
July-Sept. ....	---	---	---	---	---	---	---	---	---
Oct.-Dec. ....	---	---	---	---	---	---	---	---	---
Lamb, Choice grade									
1965 .....	79.1	58.4	53.4	8.0	45.4	33.7	20.7	13.0	57
1966 .....	85.6	59.8	55.5	8.4	47.1	38.5	25.8	12.7	55
1967 .....	87.1	60.7	52.4	5.7	46.7	40.4	26.4	14.0	54
1967									
Jan.-Mar. ....	83.6	55.8	48.9	6.3	42.6	41.0	27.8	13.2	51
Apr.-June ....	85.3	62.1	54.4	6.2	48.2	37.1	23.2	13.9	57
July-Sept. ....	89.7	64.0	53.7	4.8	48.9	40.8	25.7	15.1	55
Oct.-Dec. ....	89.9	60.8	51.9	5.3	46.6	43.3	29.1	14.2	52
1968									
Jan.-Mar. ....	90.4	62.4	54.6	6.3	48.3	42.1	28.0	14.1	53
Apr.-June ....	92.7	69.1	59.6	6.2	53.4	39.3	23.6	15.7	58
July-Sept. ....	---	---	---	---	---	---	---	---	---
Oct.-Dec. ....	---	---	---	---	---	---	---	---	---

1/ Estimated weighted average price of retail cuts. 2/ Wholesale value of quantity of carcass equivalent to 1 lb. of retail cuts: Beef, 1.35 lb.; pork, 1.00 lb.; lamb, 1.14 lb. 3/ Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.25 lb.; pork 2.00 lb.; lamb, quantity varies by months from 2.33 lb. in April to 2.38 lb. in October. 4/ Portion of gross farm value attributed to edible and inedible byproduct. 5/ Gross farm value minus byproduct allowance.

Prices farmers receive for food products probably will average a little above a

year ago, and some widening of farm-retail spread is anticipated.

## CONSUMER INCOME AND EXPENDITURES

Personal disposable income rose to \$2,919 per person <sup>1/</sup>--in the second quarter this year. It averaged 2 percent higher than in the preceding quarter and 7 percent higher than in April-June 1967 (table 4). In constant dollars, disposable income was also higher, averaging almost 1 percent more than in the first quarter and 3 percent more than a year earlier.

Consumer expenditures for goods and services averaged \$2,624 per person <sup>1/</sup> in the second quarter this year--up about 1 percent from the first quarter and about 6 percent from a year earlier. Personal savings were at an annual rate of \$224 per capita in the second quarter--almost 8 percent of disposable income compared with about 7 percent a year earlier.

### Expenditures for Food

Consumer expenditures for food in second quarter this year rose to \$503 per person <sup>1/</sup>--up about 2 percent from the first quarter and 6 percent from a year earlier. <sup>2/</sup> Much of the increase resulted from rising prices in the first half of 1968. These expenditures accounted for 17.2 percent of consumer disposable income compared with 17.4 in the second quarter of 1967.

In 1967, consumers spent \$477 per person for food--\$6 more than in 1966. Slightly higher prices and larger consumption accounted for this rise. Per capita expenditures for food in 1967 were 28 percent greater than a decade earlier. Prices of foods (including restaurant meals) increased 18 percent during this

10-year period. Part of the rise in expenditures resulted from consumers substituting relatively expensive foods for cheaper foods and purchasing more marketing services with their food.

During the past decade, per capita disposable income increased more than expenditures per person for food. Thus, the percentage of income spent for food trended downward from 20.7 percent in 1957 to 17.4 percent in 1967.

### Other Expenditures

Consumer expenditures for goods and services other than food amounted to \$1,995 per person in 1967--up 57 percent from 1957 (table 4). Unlike spending for food, these expenditures increased more than disposable income. Expenditures for other goods and services increased from about 71 percent of disposable income in 1957 to almost 73 percent in 1967. Prices of these goods and services rose 19 percent, or slightly more than a third as much as the rise in per capita expenditures.

Expenditures for clothing and shoes averaged \$211 per person in 1967, up 4 percent from 1966. These expenditures accounted for about 8 percent of disposable income in both years and also in 1957. Consumers spent about \$46 per person for tobacco in 1967--\$1 more than in 1966. Expenditures for tobacco have taken approximately 2 percent of consumer's disposable income in each year since World War II.

<sup>1/</sup> Seasonally adjusted annual rate.

<sup>2/</sup> These expenditures include those for all foods consumed at home and away-from-home.

Table 4.--Per capita income and expenditures for food and other goods and services, annual 1956-67 and quarterly 1967-68 1/

Year	: Disposable : personal : income :	Personal consumption expenditures				
		Food		Other goods and services		
		: Percentage : of disposable: : income 2/		: Percentage : of disposable : income 2/		
		Actual		Actual		
		Dollars	Dollars	Percent	Dollars	Percent
1956 .....		1,743	359	20.6	1,226	70.3
1957 .....		1,801	373	20.7	1,270	70.5
1958 .....		1,831	382	20.9	1,284	70.1
1959 .....		1,905	386	20.3	1,372	72.0
1960 .....		1,937	388	20.0	1,412	72.9
1961 .....		1,983	392	19.8	1,432	72.2
1962 .....		2,064	399	19.3	1,503	72.9
1963 .....		2,136	404	18.9	1,576	73.8
1964 .....		2,280	419	18.4	1,669	73.2
1965 .....		2,432	441	18.1	1,784	73.3
1966 .....		2,598	471	18.1	1,893	72.9
1967 .....		2,744	477	17.4	1,995	72.7
		Annual rates, seasonally adjusted				
1967						
Jan.-Mar. ....		2,693	476	17.7	1,948	72.4
Apr.-June ....		2,723	475	17.4	1,991	73.1
July-Sept. ...		2,758	475	17.2	2,009	72.9
Oct.-Dec. ....		2,798	481	17.2	2,030	72.6
1968						
Jan.-Mar. ....		2,866	492	17.2	2,099	73.3
Apr.-June ....		2,919	503	17.2	2,121	72.7

1/ Per capita income and expenditures for food, 1929-65, published in the February 1966 issue of the Marketing and Transportation Situation (MTS-160).

2/ Percentages calculated from total disposable income and expenditures.

Compiled from estimates published by the Office of Business Economics, National Income Division, Department of Commerce.

## THE BILL FOR MARKETING FARM-FOOD PRODUCTS 1/

Civilian consumers purchased \$85.0 billion worth of foods originating on U.S. farms in 1967 (table 5). Expenditures were over \$2 billion more than in 1966, but the increase was not as large as usual annual increases. Farmers received \$27.4 billion for these products, down from 1966 by about \$0.7 billion--the first decline since 1959. The bill for marketing these foods rose more than 5 percent to \$57.6 billion. 2/

An increase in the volume of food marketed was responsible for much of the increase in consumer expenditures in 1967. Price changes had little effect on the increase in consumer food expenditures. Retail store prices were down, but restaurant prices were up--largely offsetting each other. The greater volume of products marketed by farmers offset part of the decrease of 7 percent in prices farmers received. The increase in volume caused about half of the rise in the marketing bill. Increased marketing costs per unit of product accounted for the remaining half of the increase in the bill.

Civilian expenditures and the marketing bill have risen every year since 1950, and volume marketed has increased almost as regularly. But in 1967 and in several other years since 1950, declining farm prices have brought down the total farm value despite increases in volume of products marketed.

From 1957 to 1967, the average annual increase was 3.8 percent in consumer expenditures, 3.2 percent in farm value, and 4.2 percent in the marketing bill. Changes in 1967 were smaller than average except for the marketing bill.

Since the base period 1957-59, an increase of 21 percent in volume of products marketed has accounted for about one-half of the increase in the marketing bill. Population growth and the added population of Alaska and Hawaii has accounted for about two-thirds of the increase in marketings. The rest is attributed partly to the shift from rural to urban living, and the consequent need to purchase food instead of raising it. Also, farm families have become more dependent on purchased foods.

Rising unit marketing costs since 1957-59 have accounted for the remaining 49 percent of the change in the bill during this period, mostly through increased prices of labor, packaging materials, and other goods and services, together with some increase in the quantity of services per unit of product.

### Marketing Bill Rises for All Product Groups in 1967

The marketing bill for each of the product groups rose in 1967. Increases ranged from 2 percent for dairy products to 7 percent for fruits and vegetables (table 6).

The farm value rose for dairy products only. Decreases in the farm value of other products ranged from 1 percent for meat products to 15 percent for poultry and eggs.

Consumer expenditures increased for each product group except poultry and eggs; retail egg prices were sharply down from 1966, when they averaged higher than in any year since 1958.

1/ Prepared by Jeannette Findlay, Harry Harp, and William Wesson, Agricultural Economists, Marketing Economics Division.

2/ The marketing bill is the difference between total expenditures by civilian consumers for domestic farm-food products and the farm value or returns that farmers received for the equivalent farm products. It is an estimate of total charges for transporting, processing, wholesaling, and retailing farm foods. Foods sold in the form of meals in restaurants and other eating places and those sold at less than retail prices are valued at the point of sale. Estimates do not include the value of food products not produced on farms in the United States, foods consumed on farms where produced, or foods not sold to civilian consumers in this country.

Table 5.--Marketing bill, farm value, and consumer expenditures for domestic farm-food products bought by civilians, 1947-67

Year	Total : marketing : bill :	Farm : value : 1/ :	Civilian : expendi- : tures for : farm foods : 2/ :	Year	Total : marketing : bill :	Farm : value : 1/ :	Civilian : expendi- : tures for : farm foods : 2/ :
	Billion : dollars :	Billion : dollars :	Billion : dollars :		Billion : dollars :	Billion : dollars :	Billion : dollars :
1947 .....	22.6	19.3	41.9	1957 ...:	37.9	20.4	58.3
1948 .....	24.9	19.9	44.8	1958 ...:	39.5	21.5	61.0
1949 .....	26.0	17.4	43.4	1959 ...:	42.2	20.9	63.1
1947-49 : av. ...:	24.5	18.9	43.4	1957-59 : av. ...:	39.9	20.9	60.8
1950 .....	26.0	18.0	44.0	1960 ...:	44.2	21.7	65.9
1951 .....	28.7	20.5	49.2	1961 ...:	45.1	22.0	67.1
1952 .....	30.5	20.4	50.9	1962 ...:	46.9	22.4	69.3
1953 .....	31.5	19.5	51.0	1963 ...:	48.9	22.6	71.5
1954 .....	32.3	18.8	51.1	1964 ...:	51.2	23.4	74.6
1955 .....	34.4	18.7	53.1	1965 ...:	52.1	25.5	77.6
1956 .....	36.3	19.2	55.5	1966 ...:	54.7	28.1	82.8
				1967 3/ :	57.6	27.4	85.0

1/ The farm value is the return to farmers for products equivalent to those sold to consumers. Values of inedible byproducts, nonfood products, and exports are not included. In calculating the farm value of wheat products, the cost of domestic wheat marketing certificates to wheat processors was added to the market price of wheat beginning in the second half of 1964.

2/ Consumer expenditures for domestic farm-food products; excluded are expenditures for imported foods, seafoods, and other foods of nonfarm origin.

3/ Preliminary.

Beginning with 1960, estimates are for 50 States.

### Components of the Marketing Bill

#### Labor

Compensation of persons engaged in assembling, manufacturing, wholesaling, and retailing farm foods to civilian consumers in the U.S. amounted to \$25.2 billion in 1967--44 percent of the marketing bill, compared with 43 percent in 1966 and in 1957-59 (table 7). This sum covered payments for wages and salaries to production and clerical workers, supervisors, managers, and officers; tips to employees in eating places; imputed

earnings of proprietors and unpaid family workers; and fringe benefits. The rise over 1966 was 6 percent, compared with the average annual increase of 4 percent during the decade.

The average labor cost per hour worked has risen 47 percent since 1957-59 (table 8). But the time required to market a unit of food in 1967 was only 80 percent of that needed in 1957-59. Thus, labor cost per unit of food marketed has risen 18 percent. Increasing labor productivity continues to offset in part increasing rates of remuneration.

Table 6.--Total marketing bill, farm value, and consumer expenditures, by commodity group, for domestic farm-food products bought by civilians, 1947-67 1/

Year	All farm foods			Meat products			Dairy products			Poultry and eggs		
	Market-	Farm	Expend-	Market-	Farm	Expend-	Market-	Farm	Expend-	Market-	Farm	Expend-
	ing : bill :	value :	itures :	ing : bill :	value :	itures :	ing : bill :	value :	itures :	ing : bill :	value :	itures :
	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.	Mil.
	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.	dol.
1947 .....	22,643	19,294	41,937	5,341	7,464	12,805	4,083	3,869	7,952	1,251	2,721	3,972
1948 .....	24,936	19,869	44,805	5,773	7,679	13,452	4,588	4,226	8,814	1,362	3,041	4,403
1949 .....	25,985	17,386	43,371	5,911	6,680	12,591	4,435	3,613	8,043	1,452	2,799	4,251
1950 .....	25,960	18,032	43,992	5,979	7,373	13,352	4,501	3,656	8,157	1,485	2,579	4,064
1951 .....	28,740	20,512	49,252	6,406	8,083	14,489	5,161	4,174	9,335	1,743	3,258	5,001
1952 .....	30,519	20,413	50,932	7,072	7,711	14,783	5,482	4,429	9,911	1,761	3,036	4,797
1953 .....	31,553	19,460	51,013	7,373	7,197	14,570	5,649	4,061	9,710	1,754	3,202	4,956
1954 .....	32,316	18,824	51,140	7,439	7,223	14,662	5,877	3,886	9,763	1,803	2,651	4,454
1955 .....	34,378	18,749	53,127	8,152	6,647	14,799	6,224	4,077	10,301	1,755	2,825	4,580
1956 .....	36,302	19,246	55,548	8,506	6,633	15,139	6,510	4,321	10,831	1,935	2,775	4,710
1957 .....	37,888	20,405	58,293	8,829	7,546	16,375	6,767	4,435	11,202	1,976	2,710	4,686
1958 .....	39,549	21,445	60,994	8,933	8,535	17,468	6,987	4,463	11,450	2,164	2,908	5,072
1959 .....	42,202	20,916	63,118	9,945	8,029	17,974	7,308	4,541	11,849	2,197	2,555	4,752
1960 .....	44,150	21,699	65,849	10,182	8,170	18,352	7,484	4,625	12,109	2,160	2,842	5,002
1961 .....	45,101	22,043	67,144	10,271	8,321	18,592	7,602	4,648	12,250	2,385	2,668	5,053
1962 .....	46,891	22,424	69,315	10,501	8,732	19,233	7,838	4,612	12,450	2,405	2,683	5,088
1963 .....	48,945	22,574	71,519	11,380	8,467	19,847	7,959	4,667	12,626	2,488	2,753	5,241
1964 .....	51,188	23,352	74,540	12,301	8,523	20,824	8,102	4,812	12,914	2,587	2,766	5,353
1965 .....	52,095	25,544	77,639	11,867	9,941	21,808	8,113	4,861	12,974	2,716	2,934	5,650
1966 .....	54,739	28,112	82,851	13,187	11,265	24,452	8,123	5,354	13,477	3,086	3,462	6,548
1967 2/ .....	57,634	27,346	84,980	13,995	11,169	25,164	8,262	5,456	13,718	3,224	2,944	6,168
	Fruits and vegetables:			Grain mill products			Bakery products 3/			Miscellaneous		
1947 .....	4,952	2,646	7,598	1,014	841	1,855	3,194	876	4,070	2,808	877	3,685
1948 .....	5,235	2,454	7,689	1,186	765	1,951	3,734	848	4,582	3,058	856	3,914
1949 .....	5,690	2,335	8,025	1,244	622	1,866	4,070	728	4,798	3,183	609	3,792
1950 .....	5,630	2,278	7,908	1,234	637	1,871	4,055	761	4,816	3,076	748	3,824
1951 .....	6,440	2,649	9,089	1,336	606	2,002	4,397	859	5,256	3,257	823	4,080
1952 .....	7,082	3,008	10,090	1,394	637	2,031	4,532	811	5,343	3,196	781	3,977
1953 .....	7,336	2,737	10,073	1,433	590	2,023	4,596	834	5,430	3,412	839	4,251
1954 .....	7,535	2,743	10,278	1,499	546	2,045	4,520	860	5,380	3,643	915	4,558
1955 .....	8,274	2,844	11,118	1,577	561	2,138	4,661	819	5,480	3,735	976	4,711
1956 .....	8,805	3,064	11,869	1,671	583	2,254	4,736	829	5,565	4,139	1,041	5,180
1957 .....	9,198	3,211	12,409	1,820	615	2,435	5,276	837	6,113	4,022	1,051	5,073
1958 .....	9,865	3,085	12,950	2,030	612	2,642	5,352	797	6,149	4,217	1,045	5,262
1959 .....	10,240	3,355	13,595	2,069	590	2,659	5,843	772	6,615	4,600	1,074	5,674
1960 .....	10,998	3,475	14,473	2,147	603	2,750	6,033	797	6,830	5,146	1,187	6,333
1961 .....	11,164	3,557	14,721	2,210	615	2,825	6,168	861	7,029	5,301	1,373	6,674
1962 .....	11,837	3,554	15,391	2,261	666	2,927	6,471	890	7,361	5,578	1,287	6,865
1963 .....	12,035	3,635	15,670	2,381	655	3,046	6,783	925	7,708	5,919	1,462	7,381
1964 .....	12,390	4,090	16,480	2,513	690	3,203	6,989	947	7,936	6,306	1,524	7,830
1965 .....	12,671	4,394	17,065	2,682	743	3,425	7,094	1,007	8,101	6,952	1,664	8,616
1966 .....	13,434	4,318	17,752	2,581	756	3,337	7,068	1,094	8,162	7,260	1,863	9,123
1967 2/ .....	14,366	4,261	18,627	2,735	745	3,480	7,503	1,042	8,545	7,549	1,729	9,278

1/ Expenditures represent the market value to consumers of all domestic farm foods bought by civilian consumers in this country. Farm value is adjusted to eliminate imputed value of nonfood byproducts. The marketing bill is the difference between the farm value and expenditures.

2/ Preliminary estimates.

3/ Farm value of bakery products group includes farm values of flour, milk, eggs, fruit, lard, vegetable shortening, and sugar used in bakery products. Farm values of these ingredients are not included in farm values of other product groups.

Beginning with 1960, estimates are for 50 States.

Table 7.--Labor, transportation, corporate profits, and miscellaneous costs incurred in marketing farm-food products, 1947-67 <sup>1/</sup>

Year	Labor <sup>2/</sup>	Rail and truck transportation <sup>3/</sup>	Corporate profits <sup>4/</sup>	Miscellaneous <sup>5/</sup>	Other <sup>6/</sup>	Total marketing bill
			Before income taxes	After income taxes		
	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars	Billion dollars
1947 .....	10.2	2.0	1.5	1.0	---	22.6
1948 .....	11.2	2.2	1.3	.8	---	24.9
1949 .....	11.7	2.3	1.3	.7	---	26.0
1950 .....	12.2	2.7	1.6	.9	---	26.0
1951 .....	13.0	2.7	1.3	.6	---	28.7
1952 .....	13.8	3.1	1.4	.6	---	30.5
1953 .....	14.6	3.3	1.5	.7	---	31.5
1954 .....	15.3	3.4	1.5	.7	---	32.3
1955 .....	15.7	3.4	1.8	.9	---	34.4
1956 .....	16.3	3.7	1.9	.9	---	36.3
1957 .....	16.8	3.9	1.9	.9	5.2	37.9
1958 .....	17.1	4.1	1.9	.9	5.5	39.5
1959 .....	17.8	4.2	2.1	1.0	5.9	42.2
1957-59 average ..	17.2	4.1	2.0	.9	5.5	39.9
1960 .....	18.7	4.3	2.1	.9	6.1	44.2
1961 .....	18.9	4.5	2.2	1.0	6.4	45.1
1962 .....	19.7	4.6	2.2	1.0	7.1	46.9
1963 .....	20.3	4.7	2.4	1.1	7.5	48.9
1964 .....	21.1	4.7	2.8	1.4	8.0	51.2
1965 .....	22.4	4.4	3.0	1.6	8.4	52.1
1966 .....	23.7	4.8	3.0	1.6	9.2	54.7
1967 <sup>7/</sup> ...	25.2	---	3.1	1.6	---	57.6

<sup>1/</sup> For domestic farm foods bought by civilian consumers in this country.

<sup>2/</sup> Labor cost includes imputed earnings of proprietors, partners, and family workers not receiving stated remuneration. It also includes supplements to wages and salaries such as social security and unemployment insurance taxes and health insurance premiums, but it does not include the cost of labor employed in for-hire transportation.

<sup>3/</sup> Includes charges for heating and refrigeration; does not include local hauling; charges for intercity transportation by water and air are a part of the "other" or residual component of the marketing bill.

<sup>4/</sup> Does not include profits of unincorporated firms or transportation firms.

<sup>5/</sup> Includes depreciation, business taxes other than income tax, advertising, rent, interest and repairs, bad debts, and contributions. Data for these items by marketing agency are shown in table 9.

<sup>6/</sup> Residual component; includes other costs such as fuel, electric power, containers, packaging materials, air and water transportation, and noncorporate profits. Before 1957, the residual also included the items listed in footnote 5.

<sup>7/</sup> Preliminary.

Beginning with 1960, estimates are for 50 States.

Table 8.--Average hourly labor cost, unit labor cost and profits per unit of product for marketing farm-food products, 1947-67 1/

(1957-59=100)							
Year	:	Hourly	:	Unit	:	Profit per unit of product 4/	
		labor cost	:	labor cost		:	Before taxes
	:	2/	:	3/	:		
1947 .....	:	58	:	74	:	96	128
1948 .....	:	63	:	84	:	82	103
1949 .....	:	67	:	86	:	80	100
1950 .....	:	69	:	86	:	99	115
1951 .....	:	74	:	92	:	83	80
1952 .....	:	77	:	94	:	82	75
1953 .....	:	82	:	96	:	87	83
1954 .....	:	87	:	97	:	81	79
1955 .....	:	89	:	96	:	97	99
1956 .....	:	92	:	96	:	98	99
1957 .....	:	97	:	98	:	97	95
1958 .....	:	100	:	101	:	98	99
1959 .....	:	103	:	101	:	105	106
1960 .....	:	108	:	102	:	98	95
1961 .....	:	114	:	101	:	101	101
1962 .....	:	120	:	104	:	101	99
1963 .....	:	125	:	104	:	109	105
1964 .....	:	128	:	104	:	121	128
1965 .....	:	133	:	110	:	129	144
1966 .....	:	140	:	114	:	---	---
1967 5/ .....	:	147	:	118	:	---	---

1/ For domestic farm-originated foods bought by civilian consumers in this country.

2/ Hourly labor cost derived by dividing total labor cost (table 7) by total man-hours worked.

3/ Unit labor cost is the quotient of the indexes of total labor cost (table 7) and of volume of farm-food products marketed to civilian consumers. The index of farm-food products marketed was constructed by weighting the quantities sold by 1957-59 average retail prices.

4/ Profit per unit of product is the quotient of the index of total corporate profits from marketing farm foods produced and consumed in the United States (table 7) and the index of the volume of farm-food products marketed.

5/ Preliminary.

The labor cost component of the marketing bill in 1967 represents the compensation of 4.9 million persons, on a full-time equivalent basis. Labor costs have increased each year since the early 1930's, but the number of workers has decreased in some years. The average annual increase in number during the last decade was less than 1 percent. The gain in 1967 was larger than average. Employment rose in 1967 in each of the 4 farm-food marketing functions--manufacturing, wholesaling, retail stores, and away-from-home eating places. Predictably, the largest increase was in away-from-home eating places.

### Rail and Truck Transportation

Costs of shipping farm-food products by rail and truck amounted to about 9 percent of the marketing bill in 1966 (latest data available), compared with 10 percent in 1957-59. Railroad freight rate indexes for all farm products declined each year from 1957 to 1965, but held stable in 1966. In 1967 the Interstate Commerce Commission granted a 3 percent general freight rate increase to the railroads and various percentage increases to regulated truckers.

### Corporate Profits

Profits (before Federal taxes on income) that corporations derived from marketing food products covered by the marketing bill totaled \$3.1 billion in 1967--3 percent more than in 1966 and 55 percent more than the 1957-59 average. Before-tax profits accounted for 5.4 percent of the marketing bill in 1967, 5.5 percent in 1966, and 5.0 percent in 1957-59.

After-tax profits amounted to 52 percent of before-tax profits in 1967, compared with 45 percent in 1957-59. Decreases in corporate income tax rates, effective in 1964 and 1965, and the investment tax credit, effective January 1, 1962, were mainly responsible for the increase in after-tax profits as a percentage of before-tax profits. The investment tax credit was temporarily suspended during a few months in 1966-67.

### Miscellaneous Costs

Miscellaneous marketing costs increased faster than the other components of the marketing bill from 1959 to 1966. This component includes advertising, business taxes, depreciation, interest, rent, repairs, contributions, and bad debts. These items amounted to \$9.2 billion in 1966, compared with \$5.9 billion in 1959--an increase of 57 percent (table 9). Depreciation, business taxes, and advertising are the most significant of these cost items, accounting for \$6.0 billion of the \$9.2 billion in 1966.

The amount spent on miscellaneous costs per dollar of sales varies considerably by type of marketing firm (table 10). In 1964, such costs per dollar of sale ranged from a low of 2.2 cents for food wholesalers to a high of 12.9 cents for public eating places. Rent, business taxes and depreciation are much larger for public eating places than for other types of marketing firms.

Between 1959 and 1964, several cost components increased faster than sales--which increased by 29 percent. <sup>3/</sup> Business taxes per dollar of sales increased for all 4 types of marketing firms. The increase in business taxes was due partly to increased social security and property taxes. Advertising expenditures per dollar of sales also increased, particularly for food stores. Rent per dollar of sales increased for processors, retail food stores, and eating places from 1959-1964, partly due to increased use of rental equipment and facilities.

### Other Costs

The residual component of the marketing bill increased at a slower rate than most cost items in the marketing bill from 1957-1959 to 1966. This component includes the cost of containers and packaging materials, fuel, electric power, and other goods and services, as well as noncorporate profit and transportation costs other than intercity rail and truck transportation. These items amounted to \$14.0 billion in 1966 compared with \$11.1 billion in 1957-59--an increase of 26 percent.

<sup>3/</sup> This period includes the first and last years for which these data are available.

Table 9.--Miscellaneous costs in the food marketing bill, by type of food marketing firm, 1959-1966 <sup>1/</sup>

Item	Processors							
	1959	1960	1961	1962	1963	1964	1965	1966
	Mill. dol.	Mill. dol.	Mill. dol.	Mill. dol.	Mill. dol.	Mill. dol.	Mill. dol.	Mill. dol.
Depreciation .....	644	658	675	781	791	834	886	996
Business taxes <sup>2/</sup> .....	483	518	551	595	633	711	754	848
Advertising .....	797	844	850	917	949	1,017	1,082	1,215
Rent (net) .....	160	170	179	199	200	215	227	255
Interest (net) .....	101	101	113	131	131	143	153	172
Repairs, bad debts, contributions ..	400	412	419	460	468	496	528	593
Total .....	2,585	2,703	2,787	3,083	3,172	3,416	3,630	4,079
Wholesalers <sup>3/</sup>								
Depreciation .....	134	131	132	156	163	161	165	180
Business taxes <sup>2/</sup> .....	116	116	131	149	173	177	182	197
Advertising .....	84	76	79	79	99	79	81	88
Rent (net) .....	93	70	80	98	105	107	110	120
Interest (net) .....	35	35	37	46	50	60	62	67
Repairs, bad debts, contributions ..	65	77	83	96	104	111	114	123
Total .....	527	505	542	624	694	695	717	775
Retailers <sup>4/</sup>								
Depreciation .....	663	685	689	770	766	813	860	904
Business taxes <sup>2/</sup> .....	566	628	680	738	841	876	927	973
Advertising .....	330	358	424	517	523	575	603	641
Rent (net) .....	831	819	875	979	1,017	1,129	1,196	1,257
Interest (net) .....	99	103	112	125	137	148	159	168
Repairs, bad debts, contributions ..	252	260	290	290	320	336	355	373
Total .....	2,741	2,853	3,070	3,419	3,604	3,877	4,100	4,316
Total all groups								
Depreciation .....	1,441	1,474	1,496	1,707	1,720	1,808	1,911	2,080
Business taxes <sup>2/</sup> .....	1,165	1,262	1,362	1,482	1,647	1,764	1,863	2,018
Advertising .....	1,211	1,278	1,353	1,513	1,571	1,671	1,766	1,944
Rent (net) .....	1,084	1,059	1,134	1,276	1,322	1,451	1,533	1,632
Interest (net) .....	235	239	262	302	318	351	374	407
Repairs, bad debts, contributions ..	717	749	792	846	892	943	997	1,089
Total .....	5,853	6,061	6,399	7,126	7,470	7,988	8,444	9,170

<sup>1/</sup> Estimates are based on Internal Revenue Service and census data. 1965 and 1966 are preliminary. These estimates are for both corporate and noncorporate firms and relate only to domestic farm foods sold to U.S. civilian consumers. Data for years before 1966 have been revised.

<sup>2/</sup> Includes property, social security, unemployment insurance, State income, and franchise taxes, license fees, etc., but does not include Federal income tax. Social security and unemployment insurance taxes also are included in the labor cost component as labor supplements.

<sup>3/</sup> Merchant wholesalers of groceries and related products.

<sup>4/</sup> Includes retail food stores and restaurants and other eating places.

Table 10.--Miscellaneous costs per dollar of sales, by type of food marketing firm, 1959 and 1964 1/

Item	Processors		Wholesalers		Retailers		Eating places	
	1959	1964	1959	1964	1959	1964	1959	1964
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Depreciation .....	1.51	1.68	0.55	0.51	1.02	1.03	2.74	2.77
Business taxes <u>2/</u> ....	1.13	1.43	.48	.56	.84	1.03	2.44	3.22
Advertising .....	1.86	2.05	.35	.25	.72	1.08	.64	.88
Rent .....	.37	.43	.38	.34	1.18	1.32	3.76	4.19
Interest .....	.24	.29	.14	.19	.14	.15	.45	.64
Repairs, bad debts, and contributions ...	.94	1.00	.27	.35	.38	.40	1.08	1.22
Total .....	6.05	6.88	2.17	2.20	4.28	5.01	11.11	12.92

1/ Compiled from Internal Revenue Service data.

2/ Includes property, social security, unemployment insurance, State income, and franchise taxes, license fees, etc., but does not include Federal income tax.

#### Increase in Major Components of the Marketing Bill Since 1957-59

Between 1957 and 1966, the marketing bill increased \$14.8 billion--an increase of 37 percent (table 11). Labor costs increased \$6.5 billion and accounted for 44 percent of the increase in the marketing bill. About \$3.7 billion or 25 percent of the increase resulted from rising miscellaneous costs, such as depreciation, business taxes, advertising, rent, and interest. Profits accounted for \$1 billion of the increase and transportation \$0.7 billion.

The increase in the labor component of the marketing bill from 1957-59 to 1966 was 38 percent, compared with 37 percent for the entire bill. The largest increases were for the miscellaneous cost items. Increases ranged from a high of 86 percent for interest to a low of 51 percent for depreciation. The smallest increase was for transportation, only 17 percent.

Table 11.--Increase in the marketing bill due to increase in major components,  
1957-59 to 1966

Component	Components of marketing bill			Increase in total	
	1957-59	1966	Increase :1957-59 to 1966:	bill due to increase in components	
	<u>Bil. dol.</u>	<u>Bil. dol.</u>	<u>Percent</u>	<u>Bil. dol.</u>	<u>Percent</u>
Labor .....	17.2	23.7	37.8	6.5	43.9
Transportation .....	4.1	4.8	17.1	.7	4.7
Profits (before taxes) ..	2.0	3.0	50.0	1.0	6.8
Total .....	23.3	31.5	35.2	8.2	55.4
Miscellaneous					
Depreciation .....	1.38	2.08	50.7	.70	4.7
Business taxes .....	1.14	2.02	77.2	.88	6.0
Advertising .....	1.07	1.94	81.3	.87	6.0
Rent (net) .....	1.02	1.63	59.8	.61	4.2
Interest (net) .....	.22	.41	86.4	.19	1.3
Repairs, bad debts, contributions .....	.68	1.09	60.3	.41	2.8
Total .....	5.5	9.2	67.3	3.7	25.0
Other .....	11.1	14.0	26.1	2.9	19.6
Total .....	39.9	54.7	37.1	14.8	100.0

## COMPARISON OF PRICES PAID FOR SELECTED FOODS IN CHAINSTORES IN HIGH AND LOW INCOME AREAS

A recent USDA study of food prices in selected chains in 6 cities found no consistent differences between prices charged in stores located in low and high income areas. Though there was some variation from store to store in prices of individual items, these were largely random in nature. Analyses of selected factors associated with quality for a limited number of meat products showed considerable variation among stores of a chain but no definite pattern by high and low income areas.

These general findings are based on an analysis of prices paid for more than 3,200 different purchases and on quality evaluations of selected meat products in 134 chainstores on February 8 and 9, 1968. The survey was undertaken to determine whether differences existed between stores of the same chain located in high and low income areas of the same city in (1) prices charged for the same item, (2) quality of selected meat products, and (3) characteristic of stores.

Cities surveyed were located in various sections of the country. Two chains within each of these cities were selected from among those having a relatively large share of the market. Where feasible, a national and either a local or a regional chain were surveyed.

All stores in each chain were divided into 2 groups on the basis of Food Stamp redemptions and location with respect to income area. Those with high redemption rates and in, or bordering on, poverty areas were designated as low income area stores; those with low or zero redemption rates located outside poverty areas were designated high income area stores.

Seventeen kinds of food, selected from those frequently used by families, were purchased in each sample store. These included meats, canned vegetables and fruit, cereal and dairy products, and staples. Two brands of each packaged and canned product were specified for purchase. No substitutions were permitted. All purchases were made in sample stores of an individual chain on the same day.

### Prices in high and low income areas.

A comparison of average prices paid for the same item in high and low income area stores of each chain showed no difference in 163 out of 326 instances. In 63 cases, the difference was less than one-half cent; the remaining varied by one-half cent or more. Differences in average prices paid in high and low income area stores were no greater than would be expected on the basis of variation among stores within an income area.

Even though item-by-item comparisons showed no pattern of price discrimination, all purchases in stores of the same chain were examined for evidence of high average prices being charged in low income stores. In only 1 out of the 12 chains studied did this occur. Even here, most differences were small.

Variations from the "most usual price paid". For all items, the prices paid differed from the "most usual price" or most frequent price in about 1 out of 10 purchases. These differences were about equally distributed among those higher (6 percent) and lower (5 percent). Slightly more variations from the most usual price were found in purchases made in low (12.7 percent) than in high income area stores (10 percent).

Some products varied from the most usual price more often than others. Milk, for example, varied little in price from store to store within the same chain. And, there were relatively few instances where prices of baby food, fruit cocktail, rice, bread, coffee, and chicken differed from the most usual price paid.

On the other hand, almost 20 percent of margarine purchases were made at prices different from the most usual one. This was due, in part, to the uneven availability of "cents-off" deals among stores of the same chain.

### Availability of cents-off deals.

Among the foods purchased, there were only 2 products having "cents off" on labels. One of these, a brand of coffee marked "7 cents off" on the label, was

available in only 1 chain in 1 city. On the other hand, at least 1 of the brands of the second product, margarine, was available in stores of the 2 chains in 4 of the cities. Though this was the case, only 3 out of 4 packages purchased carried the cents-off deal. More packages having such labels were purchased in low than high income area stores.

There were only 5 out of 130 purchases (less than 4 percent) where the shopper did not receive the benefit of a price reduction when the package had a cents-off label. In these instances, the price charged was always higher than that paid in other stores of the same chain by the amount specified on the cents-off label.

Other price variations. There were other causes of price differences among stores of the same chain due to methods of pricing, recording of purchases, and checker errors. For example, some stores in a chain used multiple pricing more often than others. Also, when survey shoppers purchased only 1 can of each of 2 brands of evaporated milk being sold at 2/35 cents, some checkers rang up 35 cents for the 2 while others charged 18 cents a can. A few checker errors were noted, but, overall, these were found to favor customers more often than the store.

Availability and prices of advertised items. Local newspapers from 4 of the survey cities were checked to ascertain how many of the items purchased had been advertised on February 8 and 9 by the 8 sample chains. In total, 13 different items were advertised--no fewer than 2 survey items by any 1 chain. Six of the chains had advertised 4 or more of the items purchased in their stores. Meats represented half of the items advertised; chicken was advertised by 5 of the chains and frankfurters by 4. Most popular among other items were baby food, evaporated milk, margarine, and coffee. In only 6 instances were any of the shopping list items out-of-stock. These were equally divided among high and low income stores. Advertised prices were paid for 9 out of 10 purchases of such items. To a large extent, differences observed were due to the item not being marked with the advertised price.

Quality of meat purchased. Ground beef (centrally ground and packaged in casings, and store ground and packaged), frankfurters, and pork chops were subjected to laboratory analyses for various quality factors. Tests were made for fat content in ground beef and for added moisture in frankfurters. Pork chops were tested for percentages of bone and fat.

Ground beef, in casings, centrally ground and packaged, was available in sample stores in only 3 of the 6 cities. Of the 47 products tested, only 2 exceeded the level of 30 percent fat given in the Federal standard. One of these averaged 31.1 percent fat; the other 32.8 percent.

Ground beef packaged and sold in an individual store is not required to meet the USDA standard for fat. For comparative purposes, however, these products were tested. Of the 120 samples of store-ground beef purchased, only 4 percent contained more than 30 percent fat. The largest share of the samples (82 percent) contained between 20 and 30 percent fat, which is considered normal. Of the remaining, 12 percent would be considered lean and 2 percent extra lean. Seven percent of the samples purchased in low income area stores were above the 30 percent level, compared with 2 percent from high income stores. About 22 percent of the products from high income stores were lean or extra lean, compared with 7 percent from low income area stores.

Of the 244 samples of frankfurters tested, only 13 contained more than the Federal tolerances for water added. Of these, 7 were the same brand and purchased in the same city. Eight of the 13 samples were from stores located in high income areas.

Fat content in pork chops was slightly higher in products from low income stores.

Characteristic of stores. Subjective descriptions by survey personnel indicated that sample stores in the low income areas were located in older and less well kept neighborhoods and, usually, near business or industrial sections of the city. High income area stores were less likely to be

in congested areas. They were usually in sections with more apartments and single dwelling units.

There was no consistent pattern of differences between stores in the 2 areas. Some low income area stores were described as smaller and were given lower ratings for 1 or 2 characteristics; some high income stores also received lower ratings on specific characteristics. But most stores were rated as satisfactory regardless of the income area in which they were located.

Scope of data. These findings are based on prices obtained in a sample of chainstores in 6 cities on February 8 and 9, 1968. In using this information,

it should be kept in mind that the survey was not designed to draw comparisons among chains, among brands, or among cities. The main purpose of the survey was to provide data with which to draw comparisons of prices between stores of the same chain located in high and low income areas in the same city on the same day.

A complete discussion of the survey, with statistical tables, is available in a report, "Comparison of Prices Paid for Selected Foods in Chainstores in High and Low Income Areas of Six Cities". Single copies may be obtained from the Division of Information, Office of Management Services, U.S. Department of Agriculture, Washington, D.C., 20250.

## MARKETING SPREADS FOR WHITE BREAD

J. C. Eiland

Agricultural Economist, Marketing Economics Division

The average retail price of a 1-pound loaf of white bread purchased in retail food stores was 22.2 cents in 1967--0.2 cent above the price in 1966 and 8.7 cents above 1947-49 (table 12). Retail bread prices have increased every year since 1947 except 1964, but the rate of increase has slowed considerably during the 1960's. The average retail price advanced by 3.2 percent a year during the 1950's, compared to 1.8 percent a year during the 1960's.

From 1947-49 to 1957, retail bread prices increased 37 percent, but from 1957-59 to 1967, prices increased only 17 percent. The increase in bread prices during the 1960's has been slightly greater than the increase in the BLS Consumer Price Index for food at home.

### Farm-Retail Spread

The difference between the retail price of a loaf of bread and the farm value of the ingredients used to produce it--the "marketing spread" or "farm-retail spread"--increased from 10.2 cents per 1-pound loaf in 1947-49 to 18.8 cents in 1967. This increase in the marketing spread has caused almost all of the rise in the retail price. Most of the increase in the spread occurred during the 1950's. From 1947-49 to 1957, it increased 5.1 cents, but from 1957-59 to 1967--2.9 cents. A major portion of the increase in the marketing spread was accounted for by the baker-wholesaler spread.

### Baker-Wholesaler Spread Increased

The largest share of the retail price of a loaf of bread is the baker-wholesaler spread--the difference between the wholesale price of bread and the cost of ingredients to the baker. This spread covers the cost of the numerous services performed by the baker and the baker's profit.

The baker-wholesaler spread increased 5.8 cents between 1947-49 and 1967 and

accounted for 67 percent of the increase in the farm-retail spread. The increase in the spread resulted from wholesale prices rising more than the cost of ingredients to the baker--6.4 cents and 0.6 cent, respectively. During the past 18 years, wholesale price increased every year but 3 and declined only once (table 13). In comparison, the cost of all ingredients increased 9 years, declined 8, and remained the same 1 year between 1947-49 and 1967. The wholesale price of bread increased 57 percent and the cost of all ingredients, 12 percent, but the baker-wholesaler spread increased 92 percent during the period.

The baker-wholesaler performs many functions in the manufacture and distribution of white pan bread sold in retail food stores. Flour and other ingredients are stored, processed, and baked, and the bread is sliced, wrapped, delivered, and placed on grocery shelves.

The baker-wholesaler costs per 1-pound loaf for performing these services have increased significantly since 1945 (table 14). Wages and salaries, including fringe benefits, almost doubled between 1950 and 1967. The increase in labor costs has accounted for nearly two-thirds of the increase in the baker-wholesaler spread since 1950. Increased packaging and wrapping costs, and delivery costs other than wages and salaries, accounted for most of the remaining increase in the spread. Total costs increased 0.2 cent more than the baker-wholesaler's spread, resulting in a similar decline in his net profits.

Although the baker-wholesaler spread accounted for most of the increase in bread prices, the rate of increase in his spread declined from 4.7 percent per year during the 1950's to 1.4 percent per year in 1960-67. Among the factors contributing to the slower rate of increase are more mechanized and automated production methods, including bulk handling of ingredients, and an increase in recent

Table 12.--White pan bread: Estimated retail price; retailer's, baker-wholesaler's, miller's and other spreads; and farm value of ingredients, averages 1947-49 and 1957-59, annual 1950-67, and quarterly 1967-68 <sup>1/</sup>

Year and quarter	Retail	Retail	Baker-	Miller's	Other	Farm value	
	price	spread	wholesaler	flour	spreads	All	Wheat
	<u>2/</u>	<u>3/</u>	spread <u>4/</u>	spread <u>5/</u>	<u>6/</u>	ingredients <u>7/</u>	<u>8/</u>
	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1947-49 av. ....	13.5	2.2	6.3	0.6	1.1	3.3	2.6
1950 .....	14.3	2.6	7.0	.6	1.1	3.0	2.4
1951 .....	15.7	2.4	8.2	.7	1.2	3.2	2.6
1952 .....	16.0	2.8	8.3	.5	1.3	3.1	2.5
1953 .....	16.4	2.7	8.6	.6	1.4	3.1	2.5
1954 .....	17.0	2.6	8.9	.7	1.5	3.3	2.7
1955 .....	17.4	2.6	9.4	.7	1.5	3.2	2.7
1956 .....	17.7	2.8	9.6	.7	1.5	3.1	2.6
1957 .....	18.5	3.5	9.6	.8	1.4	3.2	2.5
1958 .....	18.9	3.4	10.2	.9	1.5	2.9	2.3
1959 .....	19.2	3.3	10.8	.8	1.5	2.8	2.2
1957-59 av. ....	18.9	3.4	10.2	.8	1.5	3.0	2.3
1960 .....	19.8	3.8	10.9	.8	1.5	2.8	2.3
1961 .....	20.2	4.1	10.9	.8	1.4	3.0	2.4
1962 .....	20.4	4.2	10.7	.8	1.5	3.2	2.6
1963 .....	20.7	4.1	11.3	.7	1.4	3.2	2.6
1964 .....	20.7	4.1	11.2	.7	1.6	3.1	2.5
1965 .....	20.8	4.2	11.1	.6	1.7	3.2	2.6
1966 .....	22.0	4.4	11.7	.7	1.6	3.6	2.9
1967 .....	22.2	4.5	12.1	.6	1.6	3.4	2.8
1967							
Jan.-Mar. ....	22.4	4.5	12.2	.6	1.6	3.5	2.9
Apr.-June ....	22.3	4.7	11.9	.6	1.5	3.6	2.9
July-Sept. ....	22.1	4.5	12.0	.6	1.6	3.4	2.8
Oct.-Dec. ....	22.2	4.6	12.1	.5	1.7	3.3	2.6
1968							
Jan.-Mar. ....	22.1	4.6	11.9	.5	1.8	3.3	2.7

<sup>1/</sup> The method of calculating these data has been revised. The figures are not comparable to those published before 1968. These data are estimates of concurrent spreads in prices at each stage in bread production and distribution, reflecting structural marketing changes as well as changes in prices of production factors. They measure the estimated actual price spreads and are not a measure of marketing charges for a constant quantity of services. The estimates are prices at which bread and ingredients changed hands in trade.

<sup>2/</sup> Average of retail prices of bread sold in food stores in urban areas reported by Bureau of Labor Statistics and adjusted for market changes occurring gradually but reflected at specific intervals in Bureau of Labor Statistics published prices. These changes and their effects on prices are shown by the difference in the two published prices (benchmark prices) on such dates, reflecting the old and new situations. Data have been adjusted to assume a smooth and gradual change from the old to the new situations.

<sup>3/</sup> Spread between retail and wholesale prices.

<sup>4/</sup> Spread between wholesale price and cost to the baker of all ingredients.

<sup>5/</sup> Spread between sales value of flour and cost of wheat to miller.

<sup>6/</sup> Spread or charges for transporting, handling, storing all ingredients, for processing, ingredients other than flour and cost of raw materials from which such nonfarm-produced ingredients as yeast, yeast food, salt, malt extract, mold inhibitor, and sundry ingredients are processed. This spread is a residual figure.

<sup>7/</sup> Value at prices received by farmers, including the value of the domestic wheat marketing certificate, less byproduct allowances, for the quantity of wheat and other farm products yielding ingredients used in a pound loaf of white bread.

<sup>8/</sup> Returns to farmers for wheat less imputed value of millfeed byproducts, based on average market prices received by farmers for hard winter and hard spring wheat in the 10 major bread wheat producing States; return for 0.897 lb. before July 1957, 0.884 lb. from July 1957 to December 1963, and 0.867 lb. beginning in January 1964. The value received for domestic marketing certificate has been included beginning July 1964.

Table 13.--White pan bread: Number of years prices, marketing spreads, and farm values changed from previous year, 1947-49 to 1967

Item	Number of years item 1/		Item	Number of years item 2/	
	Increased	Decreased		Increased	Decreased
Retail price .....	17	0	Mill sales value		
Retail spread .....	10	6	of flour .....	6	7
Wholesale price ...	15	1	Miller's flour spread ...	6	5
Baker-wholesale spread .....	13	3	Cost of wheat to miller ..	7	6
Cost to baker:			Other spreads .....	8	4
All ingredients ..	9	8	Farm value:		
Flour .....	7	8	Wheat .....	7	8
			All ingredients .....	7	8

1/ Possible number of changes was 18. Difference between 18 and number of increases and decreases combined is number of years of no change from previous year.

years in the quantity of baked products delivered per route, per week. Although labor rates have been rising, these factors have reduced the effect of the higher labor rates on the cost per pound of bread produced.

#### Retail Spread Increased

The retail spread (the retail price minus the wholesale price) increased from 2.2 cents per 1-pound loaf in 1947-49 to 4.5 cents in 1967 or 2.3 cents. This was an increase of over 105 percent and accounted for around a fourth of the increase in the farm-retail spread. Although the retail spread declined 6 times out of the last 18 years, the net increase of 2.3 cents has caused over 25 percent of the increase in the retail price since 1947-49.

The retail spread--like the baker-wholesaler spread--increased as a percentage of the retail price from 16 percent in 1947-49 to 20 percent in 1967. However, the retail spread increased at a more rapid rate during the 1960's than during the 1950's--just the opposite to

the rate of the increase for the baker-wholesaler spread. During the 1960's, the retail spread has shown an average increase of 4.0 percent per year, compared to 2.0 percent during the 1950's.

#### 1967 Miller's Flour Spread Same As 1947-49

The miller's flour spread--the difference between the cost of wheat chargeable to flour and the mill sales value of flour--was 0.6 cent per equivalent 1-pound loaf of bread (0.6329 lb. of flour) in 1967, the same as it was in 1947-49 (table 12). The miller's flour spread has contributed little to the increase in the overall farm-retail spread. It declined from 4 to 3 percent of the retail price between 1947-49 and 1967.

#### Other Spreads Up

Between the farm gate and the bakery, several other handling and processing steps take place, including the addition of some ingredients not produced on farms, and for each there is a cost--the sum of which are termed other spreads. These

Table 14.--Estimated baker's costs, profits, spread, and wholesale price for a 1-pound loaf of white bread, 1945, 1950, 1955, 1960, 1965, and 1967 1/

Item	1945	1950	1955	1960	1965	1967
	Cents	Cents	Cents	Cents	Cents	Cents
Operating costs and profits:						
Wages and salaries .....	2.2	3.5	4.3	5.4	5.8	6.3
Fringe benefits and social security tax .....	.1	.2	.4	.4	.6	.7
Packaging and wrapping material .....	.4	.6	1.1	1.3	1.2	1.3
Delivery other than wages and salaries .....	.3	.5	.8	1.0	.8	.9
Advertising and promotion .....	.2	.3	.7	.6	.5	.5
Other costs .....	1.0	1.3	1.7	1.7	1.8	2.0
Profits (after taxes) .....	.3	.6	.4	.5	.4	.4
Baker's spread .....	4.5	7.0	9.4	10.9	11.1	12.1
Ingredient costs .....	2.8	4.7	5.4	5.1	5.5	5.6
Sales price at wholesale .....	7.3	11.7	14.8	16.0	16.6	17.7

1/ Based on data for 18 multiple-unit and 18 single-unit wholesale bakeries presented in Cost and Margin Trends in the Baking Industry, Senate Committee on Agriculture and Forestry report, May 1, 1957; data on marketing spreads for white bread, published regularly by USDA; and Organization and Competition in the Milling and Baking Industries, Technical Study No. 5, National Commission on Food Marketing, June 1966.

spreads pay for storage, transportation and handling ingredients, processing ingredients other than flour, and the cost of raw materials of nonfarm origin. In 1947-49, these spreads amounted to 1.1 cents but increased to a high of 1.7 cents in 1965. In 1966 and 1967, they amounted to 1.6 cents.

#### Farm Value in 1966-67 Highest for 1947-67 Period

The farm value (money received by farmers) for all ingredients used in a

1-pound loaf of white pan bread declined from 3.3 cents in 1947-49 to a low of 2.8 cents in 1959 and 1960, then increased to 3.6 cents in 1966--the first year it was above 1947-49 (table 12). The 1967 farm value of all ingredients averaged 0.2 cent below 1966, but 0.1 cent above 1947-49. Although the farm value of ingredients was 0.1 cent higher in 1967 than in 1947-49 and 0.6 cent above the low of 1959 and 1960, the farmer received only 15 percent of the retail price of bread in 1967, compared to 25 percent in 1947-49.

## FOOD USES OF SOY PROTEIN

Cleveland P. Eley 1/  
Agricultural Economist, Marketing Economics Division

Since protein is in short supply in most places in the world, scientists are continually searching for cheaper and better sources of protein. Livestock, fish, and oilseeds are the major high protein sources in the world today. Interest in recent years has centered around protein from soybeans for several reasons. First, the yield of edible protein per acre of soybeans is one of the highest of all plant or animal protein sources. Second, the nutritional quality of soybean protein is the best available from plant sources. With the exception of methionine, soy protein is well-balanced in the 10 essential amino acids and is a valuable source of the B vitamins and essential minerals. Third, soybeans can be grown in a variety of soils and under a wide range of climatic conditions. Other oilseeds--such as peanuts, cottonseed, coconut, sunflower, and sesame--also are sources of edible protein, but most of the research and development in this country has been done on soy protein.

Several U.S. firms are manufacturing food protein from soybeans and are spending considerable sums of money on research to develop new and improved food uses for this product, although this market is very small compared to that for animal feed. The following discussion is based largely on information gained during visits to several of these firms to learn about new food uses for soybeans.

### Forms of Soy Protein

There are 7 general forms of soy protein marketed for use in foods. They are soy flour, soy grits, soy protein concentrate, soy protein isolate, enzyme modified soy isolate, full fat soy flour, and enzyme active meal. These product forms are processed under sanitary conditions from clean, dehulled, soybean flakes. All forms, except full fat soy flour are defatted.

Soy flour is made from soybean flakes that are ground fine enough to

pass through a 100-mesh screen; soy grits or bits are of a larger particle size. Soy flour and grits are approximately 50 percent protein.

Soy protein concentrate, which is approximately 70 percent protein, is made by extracting part of the nonprotein fraction from soybean flakes using diluted acid or alcohol. Soy protein isolate is made the same way as concentrate but in a multistep process. Soy isolate is above 90 percent protein and is available in powdered, extruded, or spun form.

Enzyme modified protein is made by modifying soy flakes either partially or completely, depending on the protein concentration desired, with certain enzymes. These proteins can be whipped and are used as a substitute for egg albumin.

Enzyme active soybean flour is produced by processing soy flakes at a low temperature to preserve the natural enzymes. This meal is used as a bleaching agent in white bread. Many of these different forms of soy protein products can be purchased with different levels of fat or lecithin.

### Food Uses of Soy Proteins and Reasons for Use

Soy flour and grits are used, in the order of importance, in baked goods (including mixes), meat products, beverages, baby foods, brewers flakes, and several miscellaneous products. Soy protein concentrate is used in meats, bakery products, beverages, and baby foods. Soy protein isolate is used primarily in comminuted (ground) meats and in making textured meat-type foods. With the exception of beverages and baby foods, soy protein is used for a functional rather than nutritional purpose.

Soy protein products are used for several purposes in bakery and bakery-type products. Soy protein has good water

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1/ Harry O. Doty, Jr., and others in the division assisted in preparing this article.

holding capacity and is often used in several kinds of bread to make the bread stay fresh longer. The quantity of regular soy flour or soy concentrate used in bread is about 3 percent of dry ingredient weight. Some cake mixes also contain soy flour and soy concentrate to keep cakes moist longer. In other bakery products, such as doughnuts and pancake mixes, soy flour and soy concentrate are used to keep the batter from absorbing too much fat while cooking. In pancake mixes, soy flour also aids in keeping the pancakes from sticking to the griddle. Addition of soy flour to grease used for greasing baking pans helps to produce a better browning effect on bread and cakes in the areas adjacent to the pan. Some bakeries use small amounts of enzyme active soy flour--one-half percent or less--in white bread for bleaching purposes. Lipoxidase, a naturally occurring enzyme in soy flour, bleaches the carotenoid (yellow) pigment in wheat flours, thus making whiter breads; reportedly, it also improves the bread's flavor.

Soy flour, grits, concentrate, and isolate are all used in meat-type products and generally finds use in comminuted meats such as hot dogs, luncheon meats, sausage, hamburger meats, meats for stews and meat loaves. These meat products are usually made from the cheaper cuts of meat containing a higher percentage of fat. Soy protein is used in these products--in amounts up to 3 or 3½ percent by weight--to retain the fat and the natural juices in the product, to bind and hold the ground particles together, and to minimize shrinkage during cooking. Meat processors also claim that the soy protein cleanses the machines used in processing comminuted meats.

Soy protein is also used in vegetable protein foods and beverages. These products are formulated for babies and older people who are allergic to dairy and other food products and for people who for religious or other reasons do not eat meat. A protein beverage mix made principally from soy flour is also being manufactured for sale in developing countries where diets suffer from a protein deficiency.

There also are many minor uses of soy flour and grits in the beverage or

food field. Soy flour and grits are used as a foam stabilizer in brewing beer, as a base for artificial spices, to add body and protein to pasta or macaroni-type products, to reduce stickiness in the manufacture of confections, as a stabilizer in some types of cake frosting and whipping creams, and in many other ways. Research is being conducted to find new and different uses for soy flour and grits, since they are plentiful and low priced.

#### Simulated Meat Products

Simulated meat products are made from soy protein isolates, natural or artificial colorings and flavorings, and other ingredients. To obtain the texture and mouth feel of meat, soy protein isolates are spun or extruded into fibers. Several food manufactures are marketing simulated ham, bacon, sausage, hot dogs, ground beef, poultry, fish, and other such products. In recent years, there has been much interest by the food industry and others in the market potential for simulated meat products.

Soy protein will absorb natural or artificial flavoring and coloring. This characteristic allows food manufacturers to imitate the color and flavor of meat and fish products. Private industry is doing a great amount of research to improve artificial flavorings used in simulated food products.

From a nutritional standpoint, soy protein compares favorably with meat in essential amino acids, but it is slightly lower than meat in methionine. Simulated meat products can be produced with a higher proportion of protein than meat, since soy protein isolate is 90 percent protein. In sharp contrast with meat products, simulated meat products can be stored for long periods of time without refrigeration.

Simulated soy protein meat products currently are being sold primarily in stores that cater to the health and vegetarian food market. One exception is a simulated bacon-flavored product which is being marketed nationally in regular food stores. Several other simulated meat products are being market tested.

## Limitations of Soy Protein for Food Use

All forms of soy protein have limitations for use as food. Soy flour and grits impart a bitter-beany taste to food products if more than 3 to 5 percent is used. This undesirable flavor probably has been the biggest obstacle to greater use of soy protein in food. However, new processing techniques are helping to eliminate this problem.

Another important problem with soy flour and grits is flatulence (gas production) in digestion. Recently, a diet drink manufacturer discontinued using soy flour as a source of protein due to its flatulence. Research has shown that the carbohydrates in soy flour are responsible for the flatulence. Studies are continuing on soy flour and grits to solve the flatulence and bitter-beany taste problem since there is a considerable price differential between soy flour and grits and soy concentrate and isolate.

In preparing soy protein concentrates and isolates, the carbohydrates in the soy flour are washed out to eliminate the flatulence and bitter-beany taste. However, there is another undesirable flavor left in soy concentrates and isolates. This undesirable flavor is covered up or masked in meat products with spices. However, it is more difficult to mask this flavor in bakery and dairy products since it is not compatible with or is stronger than most flavors in these products. This undesirable flavor of soy concentrate and isolate limits or eliminates their being used in many foods at this stage of technological development. Potential users such as dairy product manufacturers are devoting considerable resources to studying this problem.

Another limitation on the use of soy protein in food is a USDA regulation on the amount of minor ingredients that can be used in comminuted meats. The regulation limits the amount of soy flour, grits, concentrate, or isolate that can be incorporated into comminuted meat products to  $3\frac{1}{2}$  percent. However, more than  $3\frac{1}{2}$  percent can be used if soy protein is part of the name of the product. Trade sources claim that the regulation

is a deterrent to increased use of soy protein materials in many food products.

Soy protein also has an unfavorable image to overcome. During World War II, when meat was in short supply, an effort was made to substitute soy flour and grits in some meat products. The quality of the soy flour processed at that time was poor, and food products in which it was used were not very palatable. Although soy products have been greatly improved since World War II, some trade sources indicate that this experience has prevented some food processors from using soy protein in foods although it could now be used to an advantage.

## Price and Quantity of Soy Protein Manufactured

Prices of soy proteins have remained relatively steady for a number of years. The early July 1968 prices received by manufacturers for defatted soy protein products were: (1) soy flour and grits or bits,  $6\frac{1}{2}$  to 7 cents a pound, (2) soy concentrate, 18 cents a pound, and (3) soy isolate, 35 to 39 cents a pound. Several enzyme modified soy meal products sell for 70 cents to \$1.20 a pound. These prices were based on carload lots, f.o.b. plant.

In 1967, 3 soybean processors produced over 90 percent of the soy flour and grits, 4 manufacturers produced all the soy protein concentrate, and 3 firms manufactured all the soy protein isolate. Trade sources estimated that total domestic use of soy flour and grits in 1967 amounted to about 105 to 110 million pounds or the equivalent of about 3.2 million bushels of soybeans. Domestic use was divided approximately as follows: 50 million pounds in baked goods, including 6 million pounds of enzyme active flour; 30 million pounds in meat products; 10 million pounds in soy beverage products; 6 million pounds in dry cereals and baby foods; 3 million pounds in brewers flakes; 1 million pounds in pasta and macaroni-type products, and 5 to 10 million pounds in miscellaneous uses. Commercial exports of soy flour and grits totaled about 10 million pounds. In addition, the U.S. Government purchased about 400 million pounds of a blended corn-soy-

milk food product which contained 100 million pounds of soy flour, equal to about 3.0 million bushels of soybeans. The corn-soy-milk product was donated to developing countries.

Trade estimates of 1967 production of soy concentrate range from 17 to 30 million pounds and for soy isolate, from 22 to 35 million pounds. Production of enzyme modified was small, probably less than a million pounds. Manufacturers of concentrates and isolates have spent considerable sums of money developing these products and are reluctant to give out precise information on production.

#### Past Growth and Market Potential

Soy protein use in foods increased about 5 to 7 percent annually during 1965-67, according to industry sources, and 1968 production is reportedly increasing at about the same rate. Soy flour and grits are the fastest growing part of the soy protein business. Soy concentrate use is increasing but at a slower rate. Soy isolate appears to have the slowest growth of any soy protein product. The price structure of soy products is probably responsible for the different growth rates.

The use of soy protein has increased more in some food use markets than in others. The baking industry, the largest market for soy protein, has increased its use about 7 to 10 percent per year in recent years. In the meat industry, the use of soy protein, primarily soy concentrate and isolate, is estimated to be increasing at a rate of 5 to 6 percent per year. No information is available on the rate of growth for other food uses of soy protein. Trade sources expect all use trends to continue at about the same rates for the next 2 or 3 years.

Soy protein made the biggest gain during the last 3 years in markets formerly held by powdered skim milk, according to industry reports. This was

primarily due to rising prices of powdered milk during 1965-67. Many food manufacturers substituted soy protein for part of the powdered milk used in product formulas to lower costs. Powdered milk prices are still increasing, and this type of substitution is expected to continue.

Food manufacturers were not aware of any opposition to the use of soy protein in meat-type foods such as that which developed over the substitution of margarine for butter. The meat packing industry, the group affected by the development of simulated meats, has not attempted to prevent the use of soy protein in meat products. Many meat packers are advantageously using soy protein in their comminuted meat products.

Both marketing specialists and food technologists are optimistic about the long-range outlook for greatly expanded use of soy protein in foods in both domestic and foreign markets. The factors discussed earlier that are the basis for much of this optimism are: the high yields of edible soy protein per acre; the good nutritional qualities of soy proteins; the adaptability of soybeans to many soils and climatic conditions; the low cost of soy protein compared with other sources of protein; and our large accumulation of knowledge pertaining to the production, processing, and marketing of soybeans. Trade sources believe there will be more emphasis in the next 5 to 10 years on the nutritional value of soy protein, which may open up large, new markets. This favorable market potential for soy protein hinges on solution to the problems of bitter-beany flavor and flatulence of the relatively low-priced soy flour and grits discussed earlier. The advanced state of food technology today and the willingness of the industry to allocate sufficient resources for solving these technical problems appear to justify the optimism expressed about soy protein's potential.

## SELECTED NEW PUBLICATIONS

1. "Consumer Purchasing Patterns for the Goods and Services of Commercial Floriculture in the United States, 1966-67, A Preliminary Report," by Stephen M. Raleigh, U.S. Dept. Agr., Econ. Res. Ser., ERS-382, July 1968.
2. "Costs and Economies of Scale in Feed Manufacturing," by Carl J. Vosloh, Jr., U.S. Dept. Agr., Econ. Res. Ser., MRS-815, March 1968.
3. "Food Grain Statistics Through 1967--Wheat, Rye, Rice, Flour, By Products," U.S. Dept. Agr., Econ. Res. Ser., Stat. Bull.-423, Apr. 1968.
4. "Fluid Milk Markets--Number of Handlers and Market Shares, 1950-65," by Alden C. Manchester, U.S. Dept. Agr., Econ. Res. Ser., Stat. Bull.-428, June 1968.
5. "Geographic Pattern of Fluid Milk Prices: A Computer Analysis," by Robert E. Freeman, U.S. Dept. Agr., Econ. Res. Ser., MRR-818, Apr. 1968.
6. "Marketing Aids for the Cattle Feeder," by Richard J. Crom, U.S. Dept. Agr., Econ. Res. Ser., MRR-819, June 1968.
7. "Marketing Potential for Sterilized Milk Concentrate in Institutional Outlets," by Robert A. Cropp, Herbert H. Moede, and Truman F. Graf, Research Bulletin-271, June 1968. College of Agricultural and Life Sciences, University of Wisconsin, Madison, Wisc. (U.S. Dept. of Agr., Econ. Res. Ser. cooperating).
8. "Marketing Spreads for Soybean and Cottonseed Oils Used in Salad Dressing," by Thomas B. Smith, U.S. Dept. Agr., Econ. Res. Ser., ERS-376, June 1968.
9. "Substitute Fluid Dairy Products," by Herbert H. Moede, U.S. Dept. Agr., Econ. Res. Ser., ERS-381. (Reprinted from Dairy Situation, DS-320, May 1968.)
10. "The Structure of Fluid Milk Markets: Two Decades of Change," by Alden C. Manchester, U.S. Dept. Agr., Econ. Res. Ser., AER-137, July 1968.

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: Unless otherwise indicated, items listed are Economic Research Service :  
: publications and single copies may be obtained free from the Division of :  
: Information, Office of Management Services, U.S. Department of Agriculture, :  
: Washington, D.C. 20250. :  
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Table 15.--Farm food products: Retail cost and farm value, April-June 1968, January-March 1968, April-June 1967, and 1957-59 average

Product 1/	Retail unit	Retail cost						Net farm value 2/					
		April-June 1968	January-March 1968	April-June 1967	1957-59 average	Percentage change from:		April-June 1968	January-March 1968	April-June 1967	1957-59 average	Percentage change from:	
						January-March 1968	April-June 1967					January-March 1968	April-June 1967
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket .....		1,113.99	1,100.93	1,068.92	982.65	1	4	436.00	3/424.06	407.76	387.87	3	7
Meat products .....		321.99	320.36	311.11	285.05	1	3	171.50	165.84	162.16	154.47	3	6
Dairy products .....		200.96	198.72	194.77	173.33	1	3	96.20	3/94.58	92.43	77.85	2	4
Poultry and eggs .....		82.07	81.80	79.18	93.02	4/	4	44.17	3/43.23	41.03	56.28	2	8
Bakery and cereal products 5/													
All ingredients .....	Average quantities purchased per urban wage-earner and	169.13	169.00	169.23	148.40	4/	4/	33.47	34.02	36.03	30.55	-2	-7
Grain .....	clerk-	---	---	---	---	---	---	25.79	26.46	28.11	23.40	-3	-8
All fruits and vegetables .....	worker	252.29	244.03	227.70	202.96	3	11	71.06	3/66.49	55.39	50.05	7	28
Fresh fruits and vegetables ..	household	129.26	122.63	113.28	91.15	5	14	45.16	42.68	35.55	28.70	6	27
Fresh fruits .....	in	53.53	49.20	43.34	36.26	9	24	19.74	17.45	12.96	12.26	13	52
Fresh vegetables .....	1960-61	75.73	73.43	69.93	54.89	3	8	25.42	25.23	22.59	16.44	1	13
Processed fruits and vegetables .....		123.03	3/121.39	114.42	111.81	1	8	25.89	3/23.81	19.84	21.35	9	30
Fats and oils .....		38.09	38.23	38.82	37.56	4/	-2	10.32	10.57	11.70	11.19	-2	-12
Miscellaneous products .....		49.06	48.79	48.11	42.33	1	2	9.28	9.33	9.02	7.48	-1	3
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef, Choice grade .....	Pound	86.6	86.4	82.5	78.1	4/	5	52.5	51.4	48.0	48.3	2	9
Lamb, Choice grade .....	Pound	92.7	90.4	85.3	70.0	3	9	53.4	48.3	48.2	40.2	11	11
Pork .....	Pound	66.4	66.1	65.5	60.5	4/	1	33.6	32.4	33.5	31.0	4	4/
Butter .....	Pound	83.5	83.4	82.8	73.2	4/	1	60.3	60.9	60.6	52.6	-1	4/
Cheese, American process .....	1 pound	44.2	43.7	43.6	32.3	1	1	19.5	18.9	18.6	14.2	3	5
Ice cream .....	gallon	80.6	80.5	81.2	82.4	4/	-1	26.3	25.8	25.6	23.4	2	3
Milk, evaporated .....	14 1/2-ounce can	17.0	16.8	16.9	14.5	1	1	8.4	8.0	8.0	6.2	5	5
Milk, fresh .....													
Home delivered .....	1/2 gallon	59.6	58.8	56.4	50.8	1	5	26.4	26.0	25.1	21.9	2	5
Sold in stores .....	1/2 gallon	53.4	52.7	51.1	46.6	1	6	26.4	26.0	25.1	21.9	2	5
Chickens, frying, ready-to-cook ..	Pound	40.1	39.2	38.1	43.5	2	5	20.0	19.5	18.6	24.4	3	8
Eggs, Grade A large .....	Dozen	47.2	48.2	45.9	56.2	-2	3	27.8	3/27.5	25.6	36.1	1	9
Bread, white .....													
All ingredients .....	Pound	22.2	22.1	22.3	18.5	4/	4/	3.3	3.3	3.6	3.0	0	-8
Wheat .....	Pound	---	---	---	---	---	---	2.6	2.7	2.9	2.4	-4	-10
Bread, whole or cracked wheat ..	Pound	29.8	29.6	29.7	---	1	4/	3.3	3.2	3.4	---	3	-3
Cookies, cream filled .....	Pound	50.7	50.8	51.5	---	4/	-2	4.5	4.5	4.6	---	0	-2
Corn flakes .....	12 ounces	31.2	31.3	31.3	24.5	4/	4/	2.5	2.4	2.9	2.4	4	-14
Flour, white .....	5 pounds	58.6	58.9	59.9	53.3	-1	-2	20.8	21.6	22.9	18.8	-4	-9
Apples .....	Pound	25.1	21.2	20.8	16.1	18	21	10.8	8.1	7.6	4.7	33	42
Grapefruit .....	Each	16.2	14.0	11.9	10.7	16	36	3.9	3.5	1.8	2.7	11	117
Lemons .....	Pound	27.2	27.3	23.5	18.4	4/	16	8.0	8.8	6.5	4.2	-9	23
Oranges .....	Dozen	21.1	91.6	70.5	66.0	-1	29	26.5	25.3	12.8	23.2	5	107
Cabbage .....	Pound	12.5	12.5	11.9	8.7	0	5	3.5	4.0	3.5	2.4	-12	0
Carrots .....	Pound	17.0	25.3	15.0	14.5	-33	13	4.8	10.7	5.1	3.7	-55	-6
Celery .....	Pound	16.6	17.6	16.0	15.3	-6	4	6.4	5.5	5.5	4.4	16	16
Cucumbers .....	Pound	30.1	32.1	25.2	---	-6	19	9.7	15.0	9.1	---	-35	7
Lettuce .....	Head	26.5	26.9	30.6	22.6	-1	-13	7.8	9.7	12.5	6.0	-20	-38
Onions .....	Pound	17.4	14.1	13.8	10.1	23	26	6.8	6.5	3.9	3.4	5	74
Peppers, green .....	Pound	48.0	41.5	40.8	---	16	18	21.2	13.5	15.3	---	57	-39
Potatoes .....	10 pounds	79.5	68.5	72.8	58.3	16	9	24.4	16.3	19.7	17.8	50	24
Spinach .....	10 ounces	31.1	31.3	30.2	---	-1	3	5.5	8.6	5.9	---	-36	-7
Tomatoes .....	Pound	44.0	42.5	36.1	30.1	4	22	18.1	16.9	11.6	10.6	7	56
Peaches, canned .....	No. 2 1/2 can	35.6	34.4	31.3	34.3	3	14	6.7	6.7	5.5	6.1	0	22
Pears, canned .....	No. 2 1/2 can	54.1	53.5	42.8	---	1	26	15.9	3/15.9	7.2	---	0	121
Beets, canned .....	No. 303 can	18.3	18.2	17.6	---	1	4	1.3	1.3	1.2	---	0	8
Corn, canned .....	No. 303 can	24.4	24.1	22.6	17.8	1	8	2.9	2.9	2.7	2.4	0	7
Peas, canned .....	No. 303 can	24.8	25.0	24.8	21.0	-1	0	3.8	3.8	3.7	3.1	0	3
Tomatoes, canned .....	No. 303 can	20.6	20.4	19.4	15.6	1	6	3.9	3.9	3.3	2.3	0	18
Orange juice concentrate, frozen	6-ounce can	20.9	19.8	17.5	23.4	6	19	9.9	6.7	4.3	8.2	48	130
French fried potatoes, frozen ...	9 ounces	15.3	15.2	14.9	---	1	3	2.1	2.0	2.3	---	5	-9
Peas, frozen .....	10 ounces	20.8	20.8	20.5	19.9	0	1	3.7	3.7	3.4	3.2	0	9
Beans, dried .....	Pound	19.5	19.4	17.8	16.3	1	10	8.5	8.6	6.4	6.9	-1	33
Margarine .....	Pound	28.0	28.2	28.3	27.4	-1	-1	7.2	7.4	8.4	7.8	-3	-14
Peanut butter .....	12-ounce jar	43.8	43.8	44.1	41.4	0	-1	15.2	15.1	14.9	14.1	1	2
Salad and cooking oil .....	24-ounce bottle	53.0	53.2	54.2	---	4/	-2	12.2	12.4	13.9	---	-2	-12
Vegetable shortening .....	3 pounds	84.1	84.5	87.8	90.4	4/	-4	25.4	26.2	29.7	28.2	-3	-14
Sugar .....	5 pounds	60.9	60.7	60.3	54.5	4/	1	23.8	23.8	22.9	20.2	0	4
Spaghetti with sauce, canned .....	15 1/2-ounce can	16.8	16.7	16.3	---	1	3	2.2	2.2	2.1	---	0	5

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group includes lower grades of beef, the minor edible pork products, and veal.

2/ Gross farm value adjusted to exclude imputed value of byproducts obtained in processing.

3/ Many retail cost and farm value figures for April-June 1967 have been revised; figures in other columns revised as indicated.

4/ Less than 0.5 percent.

5/ For the bakery products group and the individual wheat products, the net farm value is based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program.

Table 16.--Farm food products: Farm-retail spread and farmer's share of the retail cost, April-June 1968  
January-March 1968, April-June 1967, and 1957-59 average

Product 1/	Retail unit	Farm-retail spread 2/						Farmer's share			
		April- June 1968	January- March 1968	April- June 1967	1957-59 average	Percentage change April-June 1968 from- January- April- March June 1968 1967		April- June 1968	January- March 1968	April- June 1967	1957-59 average
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket .....		677.59	3/676.87	661.16	594.78	4/	2	39	3/39	38	39
Meat products .....		150.49	154.52	148.95	130.58	-3	1	53	52	52	54
Dairy products .....	Average quantities purchased per urban wage-earner and clerical- worker household in 1960-61	104.76	3/104.14	102.34	95.48	1	2	48	48	47	45
Poultry and eggs .....		37.90	3/38.57	38.15	36.74	-2	-1	54	53	52	61
Bakery and cereal products 5/											
All ingredients .....		135.66	134.98	133.20	117.85	1	2	20	20	21	21
Grain .....		---	---	---	---	--	--	15	16	17	16
All fruits* and vegetables .....		181.23	3/177.54	172.31	152.91	2	5	28	27	3/24	25
Fresh fruits and vegetables .....		84.10	79.95	77.73	62.45	8	35	35	35	31	31
Fresh fruits .....		33.79	31.75	30.38	24.00	6	11	37	35	30	34
Fresh vegetables .....		50.31	48.20	47.34	38.45	4	6	34	34	32	30
Processed fruits and vegetables .....		97.14	3/97.58	94.58	90.46	4/	3	21	3/20	3/17	19
Fats and oils .....	27.77	27.66	27.12	26.37	4/	2	27	28	30	30	
Miscellaneous products .....	39.78	39.46	39.09	34.85	1	2	19	19	3/19	18	
		Cents	Cents	Cents	Cents	Percent	Percent	Percent	Percent	Percent	Percent
Beef, Choice grade .....	Pound	34.1	35.0	34.5	29.8	-3	-1	61	59	58	62
Lamb, Choice grade .....	Pound	39.3	42.1	37.1	29.8	-7	6	58	53	57	57
Pork .....	Pound	32.8	33.7	32.0	29.5	-3	2	51	49	51	51
Butter .....	Pound	23.2	22.5	22.2	20.6	3	5	72	73	73	72
Cheese, American process .....	1/2 pound	24.7	24.8	25.0	18.1	4/	-1	44	43	3/43	44
Ice cream .....	1/2 gallon	54.3	54.7	55.6	60.8	-1	-2	33	32	3/32	28
Milk, evaporated .....	14 1/2-ounce can	8.6	8.8	8.9	8.3	-2	-3	49	48	47	43
Milk, fresh .....											
Home delivered .....	1/2 gallon	33.2	32.8	31.3	28.9	1	6	44	44	44	43
Sold in stores .....	1/2 gallon	27.0	26.7	26.0	24.7	1	4	49	49	49	47
Chickens, frying, ready-to-cook ..	Pound	20.1	19.7	19.5	19.1	-2	3	50	50	49	56
Eggs, Grade A large .....	Dozen	19.4	3/20.7	20.3	20.1	-6	-4	59	57	56	64
Bread, white .....											
All ingredients .....	Pound	18.9	18.8	18.7	15.5	1	1	15	15	16	16
Wheat .....	Pound	---	---	---	---	--	--	12	12	13	13
Bread, whole or cracked wheat .....	Pound	26.5	26.4	26.3	---	4/	1	11	11	11	--
Cookies, cream filled .....	Pound	46.2	46.3	46.9	---	4/	1	9	9	9	--
Corn flakes .....	12 ounces	28.7	28.9	28.4	22.1	-1	1	8	8	9	10
Flour, white .....	5 pounds	37.8	37.3	37.0	34.5	1	2	35	37	38	35
Apples .....	Pound	14.3	13.1	13.2	11.4	9	8	43	38	37	29
Grapefruit .....	Each	12.3	10.5	10.1	8.0	17	22	24	25	15	25
Lemons .....	Pound	19.2	18.5	17.0	14.2	4	13	29	32	3/28	23
Oranges .....	Dozen	64.6	66.3	57.7	42.8	-3	12	29	28	18	35
Cabbage .....	Pound	9.0	8.5	8.4	6.3	6	7	28	32	29	28
Carrots .....	Pound	12.2	14.6	9.9	10.8	-16	23	28	42	34	26
Celery .....	Pound	10.2	12.1	10.5	10.9	-16	-3	39	31	34	29
Cucumbers .....	Pound	20.4	17.1	16.1	---	19	27	32	47	36	--
Lettuce .....	Head	18.7	17.2	18.1	16.6	9	3	29	36	41	27
Onions .....	Pound	10.6	7.6	9.9	6.7	39	7	39	46	28	34
Peppers, green .....	Pound	26.8	28.0	25.5	---	-4	5	44	33	3/38	--
Potatoes .....	10 pounds	55.1	52.2	53.1	40.5	6	4	31	24	27	31
Spinach .....	10 ounces	25.6	22.7	24.3	---	13	5	18	27	20	--
Tomatoes .....	Pound	25.9	25.6	24.5	19.5	1	6	41	40	32	35
Peaches, canned .....	No. 2 1/2 can	28.9	27.7	25.8	28.2	4	12	19	19	3/18	18
Pears, canned .....	No. 2 1/2 can	38.2	3/37.6	35.6	---	2	7	29	3/30	17	--
Beets, canned .....	No. 303 can	17.0	16.9	16.4	---	1	4	7	7	7	--
Corn, canned .....	No. 303 can	21.5	21.2	19.9	15.4	1	8	12	12	12	13
Peas, canned .....	No. 303 can	21.0	21.2	21.1	17.9	1	4/	15	15	15	15
Tomatoes, canned .....	No. 303 can	16.7	16.5	16.1	13.3	1	4	19	19	17	15
Orange juice concentrate, frozen	6-ounce can	11.0	13.1	13.2	15.2	-16	-17	47	34	3/25	35
French fried potatoes, frozen ....	9 ounces	13.2	13.2	12.6	---	0	5	14	13	15	--
Peas, frozen .....	10 ounces	17.1	17.1	17.1	16.7	0	0	18	18	17	16
Beans, dried .....	Pound	11.0	10.8	11.4	9.4	2	-4	44	44	36	42
Margarine .....	Pound	20.8	20.8	19.9	19.6	0	5	26	26	3/30	28
Peanut butter .....	12-ounce jar	28.6	28.7	29.2	27.3	4/	-2	35	34	34	34
Salad and cooking oil .....	24-ounce bottle	40.8	40.8	40.3	---	0	1	23	23	26	--
Vegetable shortening .....	3 pounds	58.7	58.3	58.1	62.2	1	1	30	31	34	31
Sugar .....	5 pounds	37.1	36.9	37.4	34.3	1	-1	39	39	3/38	37
Spaghetti with sauce, canned .....	15 1/2-ounce can	14.6	14.5	14.2	---	1	3	13	13	13	--

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group includes lower grades of beef, the minor edible pork products, and veal.

2/ The farm-retail spread is the difference between the retail cost and the net farm value shown in table on opposite page.

3/ Many farm-retail spread figures for April-June 1967 have been revised; figures in other columns revised as indicated.

4/ Less than 0.5 percent.

5/ For the bakery products group and the individual wheat products, the farmer's share is based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program.

Table 17.--Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, farm-retail spread, and farmer's share of retail cost, April-June 1968

Product 1/	Farm product equivalent	Retail unit	Retail cost	Gross farm value	Byproduct allowance	Net farm value 2/	Farm-retail spread	Farmer's share
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket .....			1,113.59	---	---	436.00	677.59	39
Meat products .....			321.99	---	---	171.50	150.49	53
Dairy products .....			200.96	---	---	96.20	104.76	48
Poultry and eggs .....		Average quantities purchased	82.07	---	---	44.17	37.90	54
Bakery and cereal products 3/								
All ingredients .....	Farm produce equivalent to products bought per urban wage-earner and clerical-worker household in 1960-61		169.13	---	---	33.47	135.66	20
Grain .....		wage-earner	---	30.91	5.12	25.79	---	15
Fresh fruits and vegetables .....		clerical-worker household	252.29	---	---	71.06	181.23	28
Fresh fruits .....		household	129.26	---	---	45.16	84.10	35
Fresh vegetables .....		in 1960-61	53.53	---	---	19.74	33.79	37
Processed fruits and vegetables .....			75.73	---	---	25.42	50.31	34
Fats and oils .....			123.03	---	---	25.89	97.14	21
Miscellaneous products .....			38.09	28.04	17.72	10.32	27.77	27
			49.06	---	---	9.28	39.78	19
			Cents	Cents	Cents	Cents	Cents	Percent
Beef, Choice grade .....	2.25 lb. Choice grade cattle	Pound	86.6	57.8	5.3	52.5	34.1	61
Lamb, Choice grade .....	2.33 lb. lamb	Pound	92.7	59.6	6.2	53.4	39.3	58
Pork .....	2.00 lb. hogs	Pound	66.4	38.0	4.4	33.6	32.8	51
Butter .....	Cream and whole milk	Pound	83.5	98.0	37.7	60.3	23.2	72
Cheese, American process .....	Milk for American cheese	$\frac{1}{2}$ pound	44.2	20.3	.8	19.5	24.7	44
Ice cream .....	Cream, milk, and sugar	gallon	80.6	---	---	26.3	54.3	33
Milk, evaporated .....	Milk for evaporating	$1\frac{1}{2}$ -ounce can	17.0	8.6	.2	8.4	8.6	49
Milk, fresh								
Home delivered .....	4.39 lb. Class I milk	$\frac{1}{2}$ gallon	59.6	---	---	26.4	33.2	44
Sold in stores .....	4.39 lb. Class I milk	$\frac{1}{2}$ gallon	53.4	---	---	26.4	27.0	49
Chickens, frying, ready-to-cook ....	1.37 lb. broiler	Pound	40.1	---	---	20.6	20.1	50
Eggs, Grade A large .....	1.03 dozen	Dozen	47.2	---	---	27.8	19.4	59
Bread, white								
All ingredients .....	Wheat and other ingredients	Pound	22.2	---	---	3.3	18.9	15
Wheat .....	.877 lb. wheat	Pound	---	3.0	.4	2.6	---	12
Bread, whole or cracked wheat .....	.708 lb. wheat	Pound	29.8	---	---	3.3	26.5	11
Cookies, cream filled .....	.528 lb. wheat	Pound	50.7	---	---	4.5	46.2	9
Corn flakes .....	2.87 lb. yellow corn	12 ounces	31.2	4/5.7	4/3.2	4/2.5	28.7	8
Flour, white .....	6.8 lb. wheat	5 pounds	58.6	---	---	20.8	37.8	35
Apples .....	1.04 lb. apples	Pound	25.1	---	---	10.8	14.3	43
Grapefruit .....	1.03 grapefruit	Each	16.2	---	---	3.9	12.3	24
Lemons .....	1.04 lb. lemons	Pound	27.2	---	---	8.0	19.2	29
Oranges .....	1.03 doz. oranges	Dozen	91.1	---	---	26.5	64.6	29
Cabbage .....	1.08 lb. cabbage	Pound	12.5	---	---	3.5	9.0	28
Carrots .....	1.03 lb. carrots	Pound	17.0	---	---	4.8	12.2	28
Celery .....	1.08 lb. celery	Pound	16.6	---	---	6.4	10.2	39
Cucumbers .....	1.09 lb. cucumbers	Pound	30.1	---	---	9.7	20.4	32
Lettuce .....	1.88 lb. lettuce	Head	26.5	---	---	7.8	18.7	29
Onions .....	1.06 lb. onions	Pound	17.4	---	---	6.8	10.6	39
Peppers, green .....	1.09 lb. peppers	Pound	48.0	---	---	21.2	26.8	44
Potatoes .....	10.42 lb. potatoes	10 pounds	79.5	---	---	24.4	55.1	31
Spinach .....	.71 lb. spinach	10 ounces	31.1	---	---	5.5	25.6	18
Tomatoes .....	1.18 lb. tomatoes	Pound	44.0	---	---	18.1	25.9	41
Peaches, canned .....	1.60 lb. Calif. cling peaches	No. 2 $\frac{1}{2}$ can	35.6	---	---	6.7	28.9	19
Pears, canned .....	1.85 lb. pears for canning	No. 2 $\frac{1}{2}$ can	54.1	---	---	15.9	38.2	29
Beets, canned .....	1.24 lb. beets for canning	No. 303 can	18.3	---	---	1.3	17.0	7
Corn, canned .....	2.495 lb. sweet corn	No. 303 can	24.4	---	---	2.9	21.5	12
Peas, canned .....	.69 lb. peas for canning	No. 303 can	24.8	---	---	3.8	21.0	15
Tomatoes, canned .....	1.84 lb. tomatoes for canning	No. 303 can	20.6	---	---	3.9	16.7	19
Orange juice concentrate, frozen ..	3.14 lb. oranges	6-ounce can	20.9	---	---	9.9	11.0	47
French fried potatoes, frozen .....	1.38 lb. potatoes	9 ounces	15.3	---	---	2.1	13.2	14
Peas, frozen .....	.70 lb. peas for freezing	10 ounces	20.8	---	---	3.7	17.1	18
Beans, dried .....	1.00 lb. Mich. dry beans	Pound	19.5	---	---	8.5	11.0	44
Margarine .....	Soybeans, cottonseed, and milk	Pound	28.0	20.5	13.3	7.2	20.8	26
Peanut butter .....	1.33 lb. peanuts	12-ounce jar	43.8	---	---	15.2	28.6	35
Salad and cooking oil .....	Soybeans, cottonseed, and corn	Pint	53.0	44.6	32.4	12.2	40.8	23
Vegetable shortening .....	Soybeans and cottonseed	3 pounds	84.1	72.4	47.0	25.4	58.7	30
Sugar .....	Sugar beets and cane	5 pounds	60.9	25.3	1.5	5/23.8	5/37.1	39
Spaghetti with sauce, canned .....	Wheat, tomatoes, cheese, sugar	$1\frac{1}{2}$ -ounce can	16.8	---	---	2.2	14.6	13

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group includes lower grades of beef, the minor edible pork products, and veal.

2/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing.

3/ For the bakery products group and the individual wheat products, gross farm value, byproducts allowance, net farm value, and farmer's share are based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program.

4/ Based on market price of corn received by farmers; no allowance made for price support payment received by farmers who comply with the Federal Feed Grain Program.

5/ Net farm value adjusted for Government payments to producers was 27.7 cents, farm-retail spread adjusted for Government processor tax was 34.4 cents, farmer's share of retail cost based on adjusted farm value was 45 percent.

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